

100

2

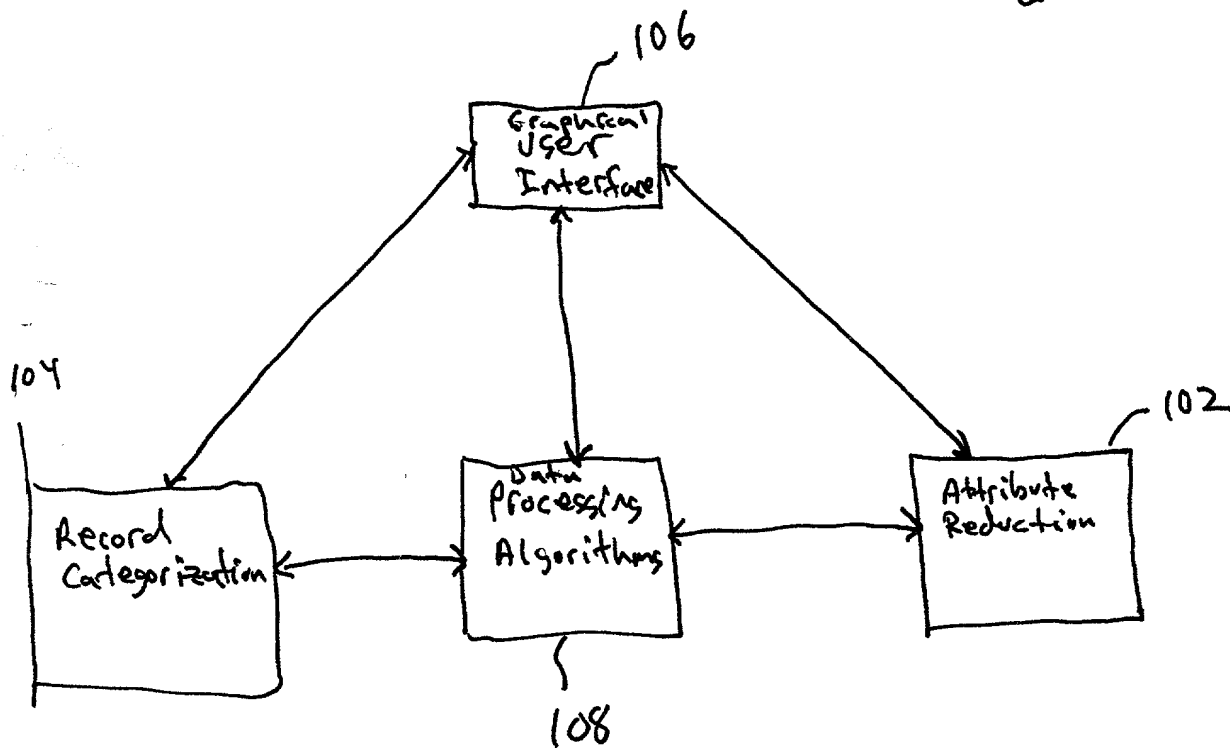


Figure 1

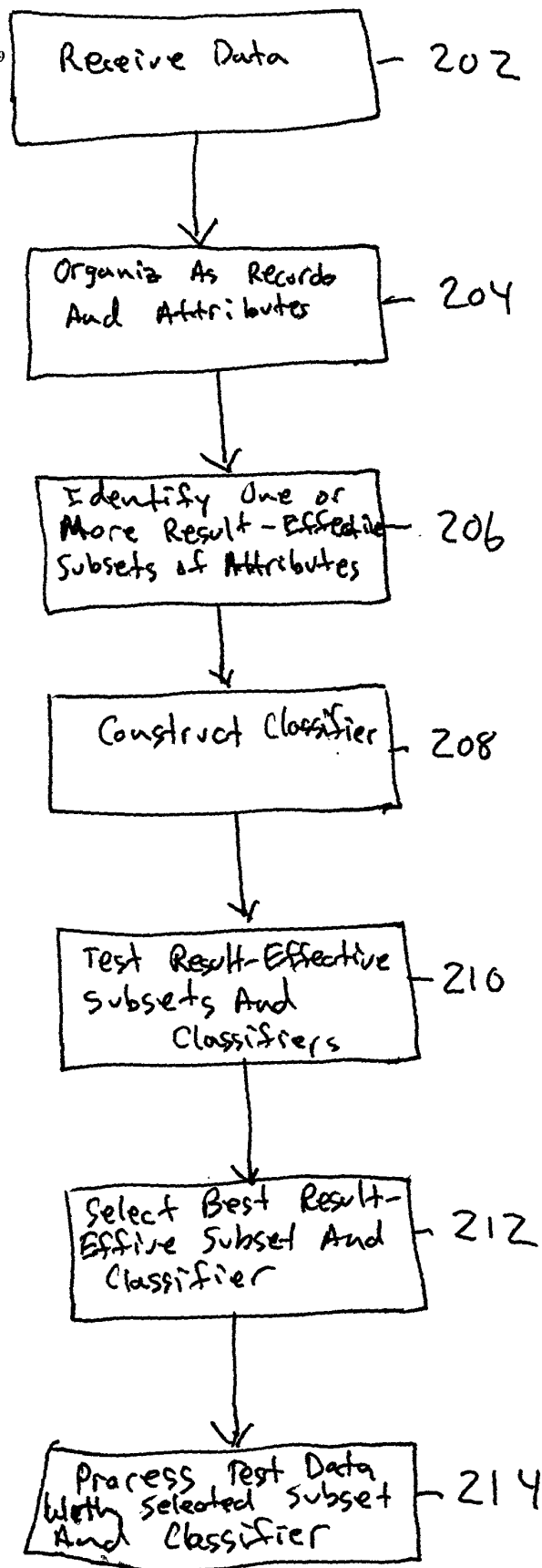


Figure 2

1205

205 FEB 25 2007

304

Variable 4

		Variable 1	Variable 2	Variable 3	Variable 4	Variable 5	Variable 6	Variable 7	Variable 8	Variable 9	Variable 10	Variable 11	Variable 12	Variable 13	Variable 14	Variable 15	Variable 16
B	D	F	1.99	20.80	86	B	1.98	1.60	A	0.30	1.53	1.95	0.95	3.33	495		
A	A	B	2.21	16.00	96	D	2.65	2.33	A	0.26	1.98	4.70	1.04	3.59	1035		
B	D	F	2.34	19.00	92	B	2.36	2.04	A	0.39	2.08	2.70	0.86	3.02	312		
A	A	A	2.67	18.60	101	C	2.80	3.24	B	0.30	2.81	5.68	1.03	3.17	1185		
A	A	B	2.70	22.50	101	C	3.00	3.25	A	0.29	2.38	5.70	1.19	2.71	1285		
B	D	E	2.42	22.00	86	B	1.45	1.25	A	0.50	1.63	3.60	1.05	2.65	450		
B	D	F	2.12	19.00	80	B	1.65	2.03	B	0.37	1.63	3.40	1.00	3.17	510		
A	A	B	2.55	18.00	98	C	2.45	2.43	A	0.29	1.44	4.25	1.12	2.51	1105		
A	B	C	2.60	17.20	94	C	2.45	2.99	A	0.22	2.29	5.60	1.24	3.37	1265		
B	D	F	2.17	21.00	85	B	2.60	2.65	B	0.37	1.35	2.76	0.86	3.28	378		

LOW HIGH

Figure 4A

2218917

306

402a 402b 402c

402

308

404

400

205120-2592200T

304

Variable 2

400

406

Title: Method And System For Data Analysis
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B	D	F	1.99	20.80	86	B	1.98	1.60	A	0.30	1.53	1.95	0.95	3.33	495
A		B	2.21	16.00	96	D	2.65	2.33	A	0.26	1.98	4.70	1.04	3.59	1035
B	D	F	1.94	19.00	92	B	2.36	2.04	A	0.39	2.08	2.70	0.86	3.02	312
A		A	2.67	18.60	101	C	2.80	3.24	B	0.30	2.81	5.68	1.03	3.17	1185
A		B	2.70	22.50	101	C	3.00	3.25	A	0.29	2.38	5.70	1.19	2.71	1285
B	D	E	2.42	22.00	86	B	1.45	1.25	A	0.50	1.63	3.60	1.05	2.65	450
B	D	F	2.12	19.00	80	B	1.65	2.03	B	0.37	1.63	3.40	1.00	3.17	510
A		B	2.55	18.00	98	C	2.45	2.43	A	0.29	1.44	4.25	1.12	2.51	1105
A		C	2.60	17.20	94	C	2.45	2.99	A	0.22	2.29	5.60	1.24	3.37	1265
B	D	F	2.17	21.00	85	B	2.60	2.65	B	0.37	1.35	2.76	0.86	3.28	378

<

LOW HIGH

402

402a 402b 402c

306

Figure 4B

2218917

205120" 26942001

304

All Columns

400

Sheet 6 of 79

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308

Variable 1	Variable 2	Variable 3	Variable 4	Variable 5	Variable 6	Variable 7	Variable 8	Variable 9	Variable 10	Variable 11	Variable 12	Variable 13	Variable 14	Variable 15	Variable 16
B	D	F	1.98	20.80	86	B	1.98	1.60	0.30	1.53	0.95	3.33			
B			2.65	16.00	96		2.65	2.33	0.25	1.98	1.04	3.59	1035		
B	D	F	2.36	19.00	92	B	2.36	2.04	0.39	2.08	0.86	3.02			
			2.67	18.60	101	C	2.60	3.24	0.30	2.81	1.03	3.17	1185		
			2.70	22.50	101		3.00	3.25	0.33	2.38	1.19	2.71	1285		
B	D	E	2.42	22.00	86	B	2.42	2.25	0.50	1.63	1.05	2.65			
B	D	F	2.12	19.00	86	B	1.63	2.03	0.37	1.63	1.00	3.17			
			2.55	18.00	98	C	2.45	2.43	0.25	1.44	1.12	2.51	1105		
B	C		2.60	17.20	94	C	2.45	2.99	0.25	2.29	1.24	3.37	1265		
B	D	F	2.17	21.00	86	B	2.60	2.65	0.37	1.35	0.88	3.28			

LOW HIGH

402

402a 402b 402c

Figure 4C

306

2218917

Completed view
 with numbers
 removed

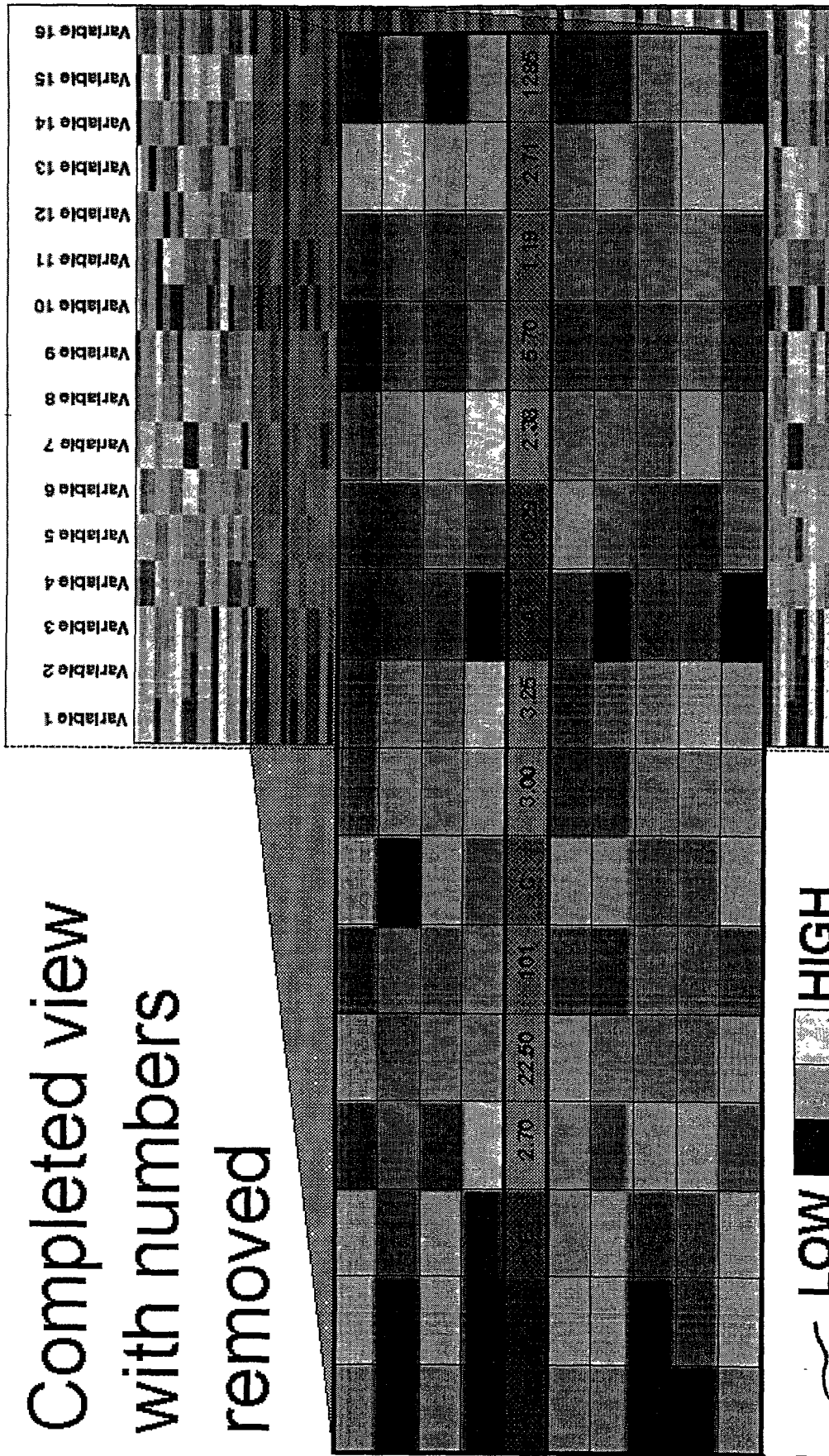


Figure 4D

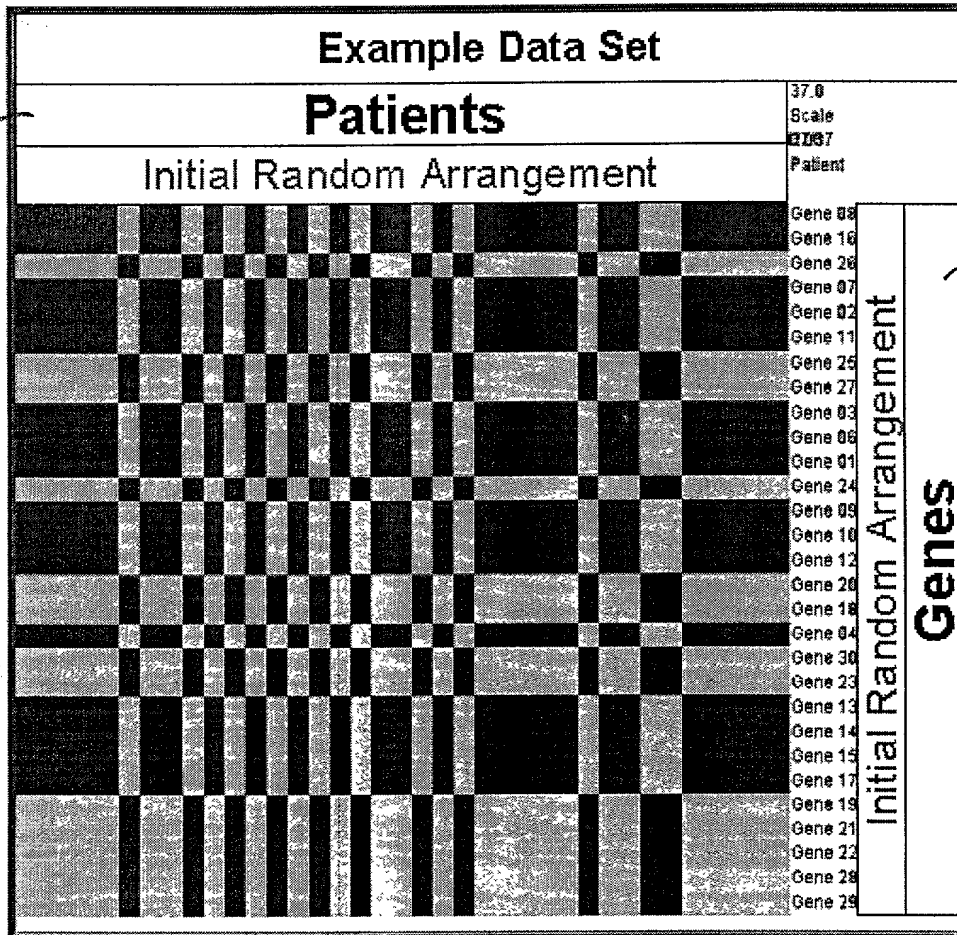
2218917

Ideal Case

Random

500

502



504

Figure 5A

Ideal Case

Sorted by Patients

500

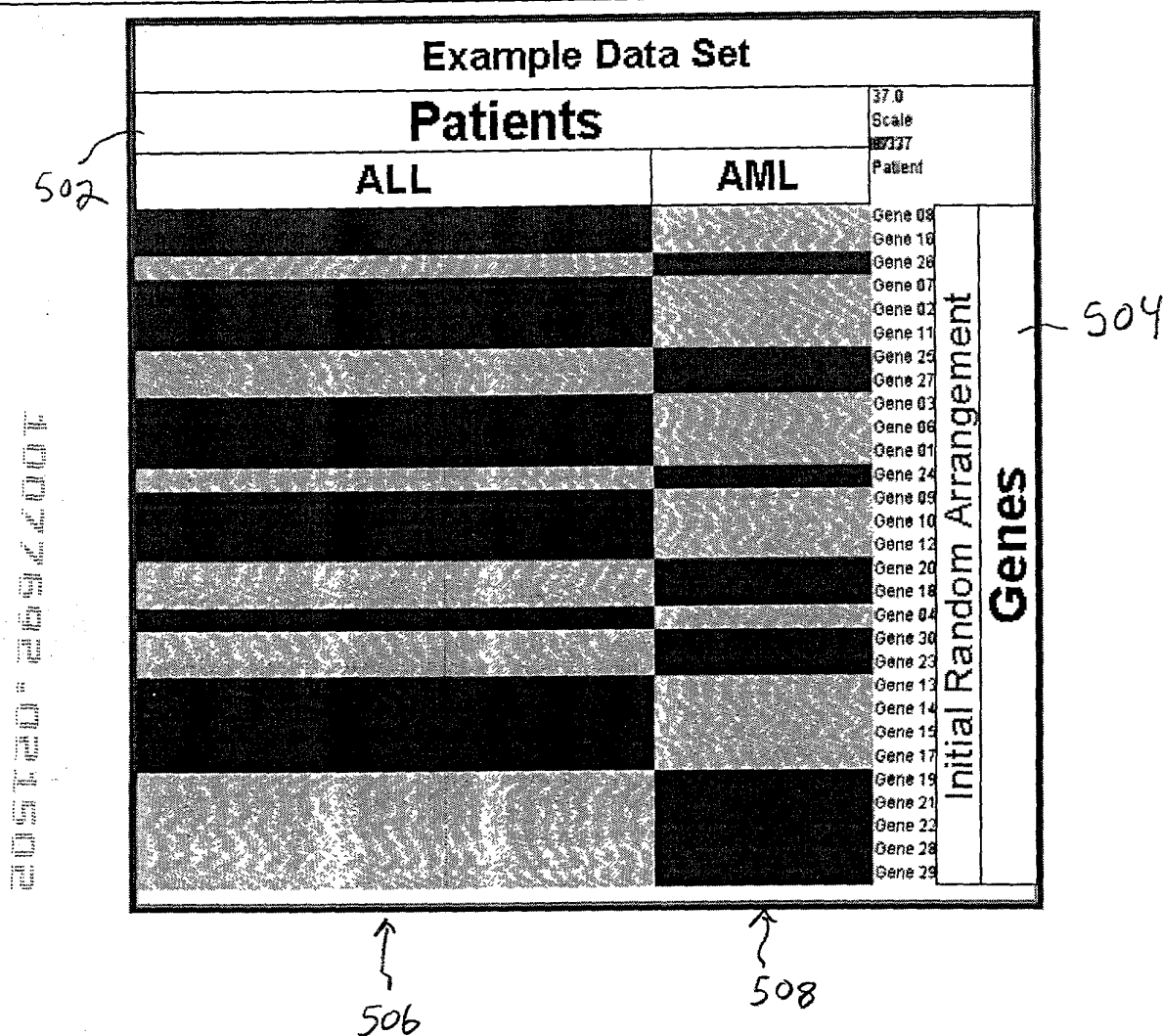


Figure 5B

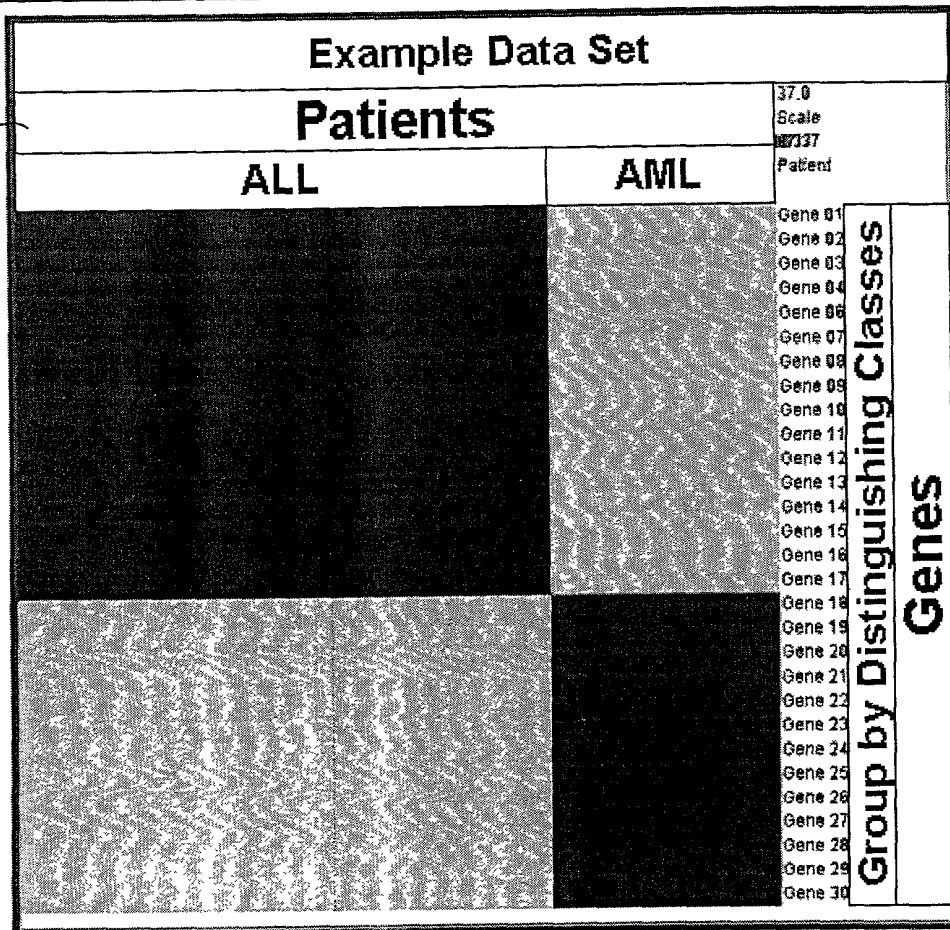
2218917

Ideal Case

Grouped on Genes

500

502



510

512

506

508

Figure 5C

2218917

5 C

Random

600

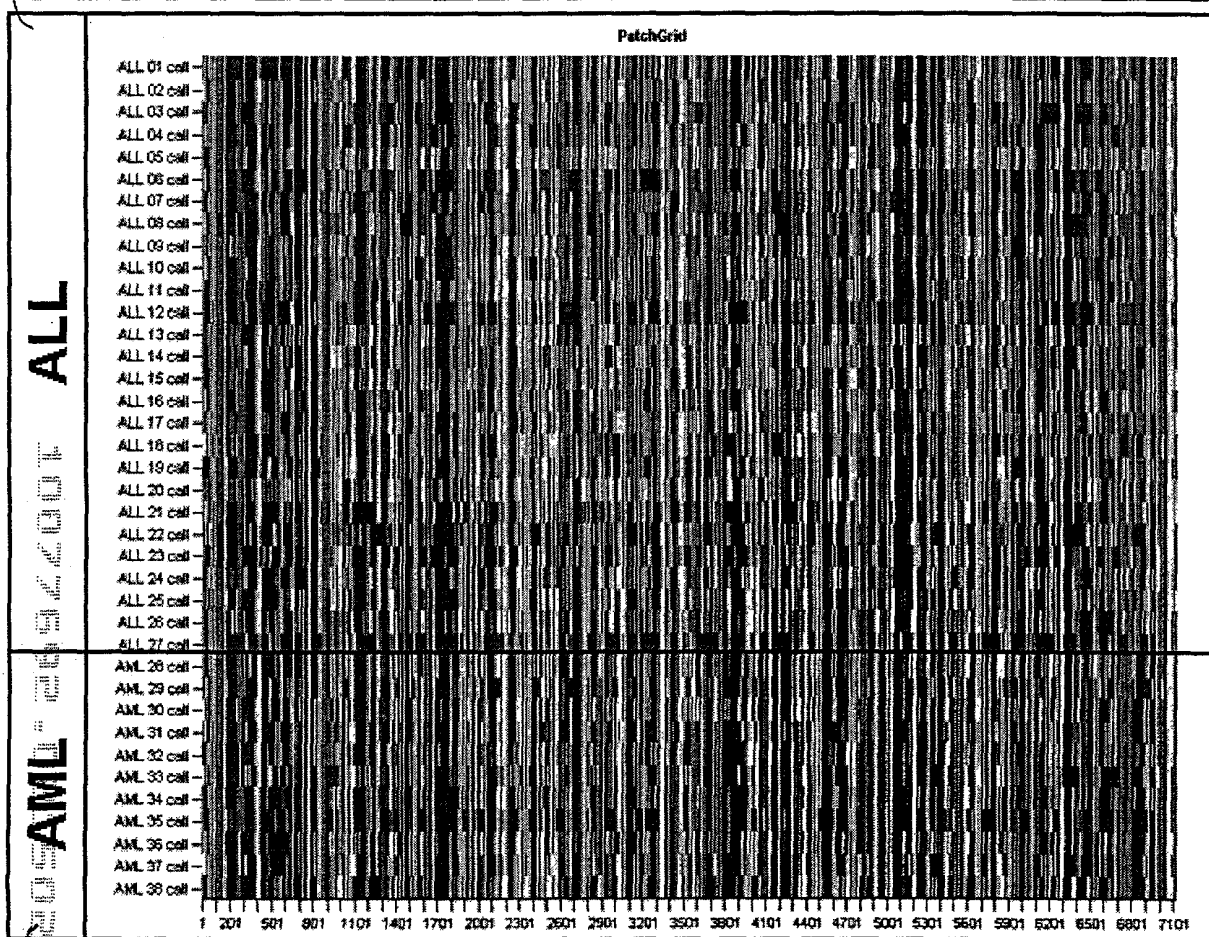


Figure 6A

2218917

5A

12/17/01

Sort 1st Dimension

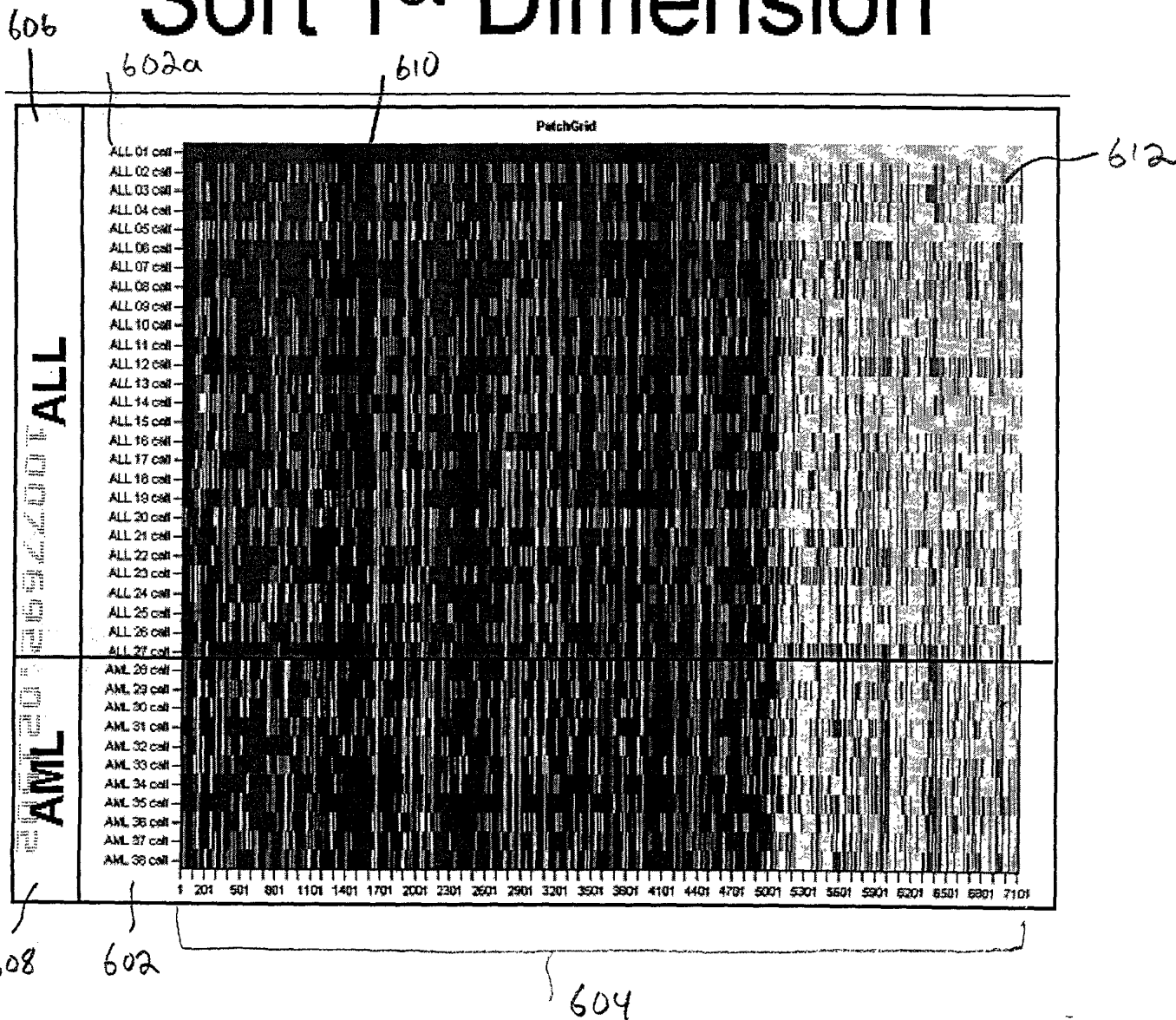


Figure 6B

2218917

600

Sort 2nd Dimension

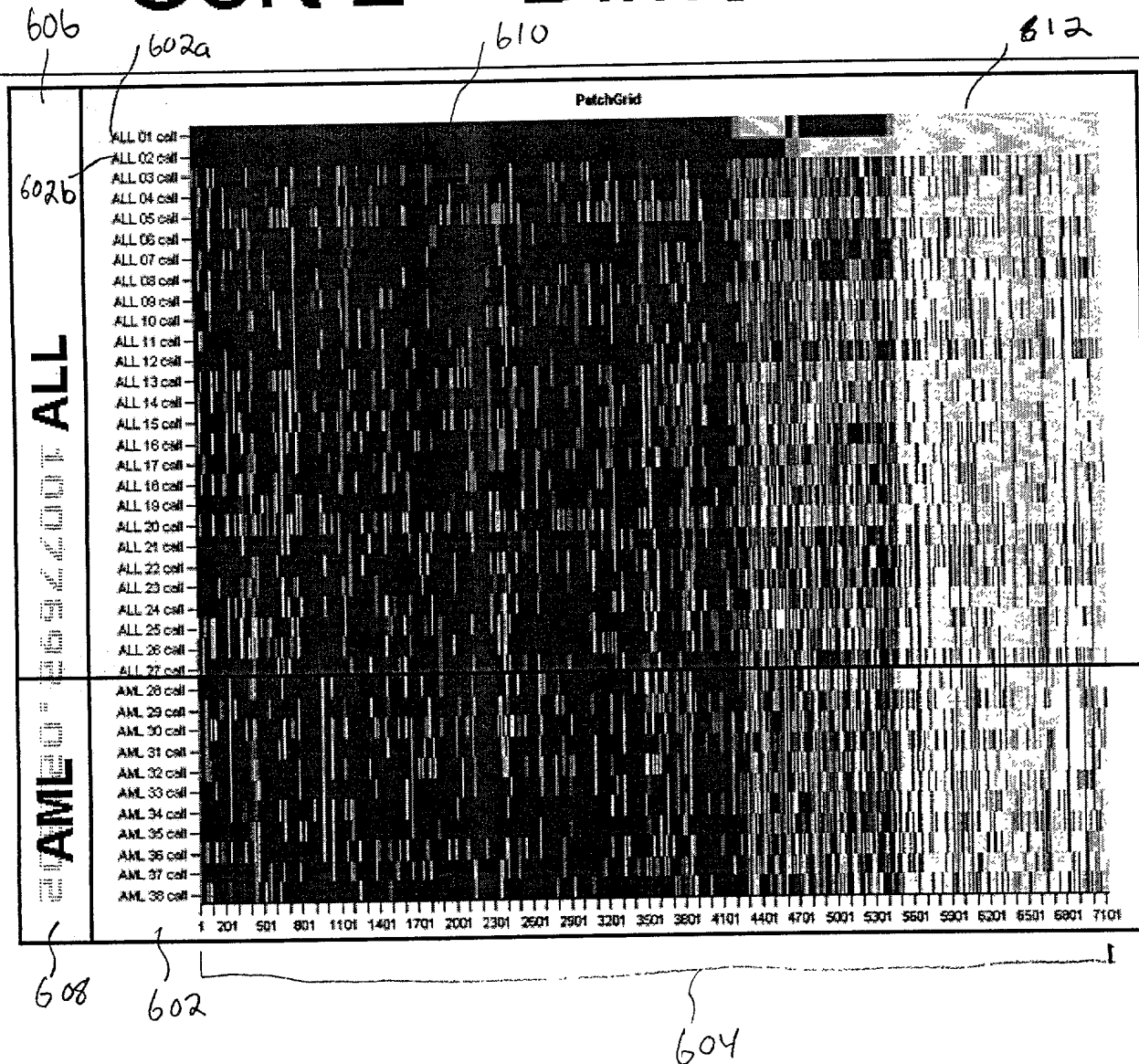


Figure 6C

2218917

6c

Sorted 5 Dimensions

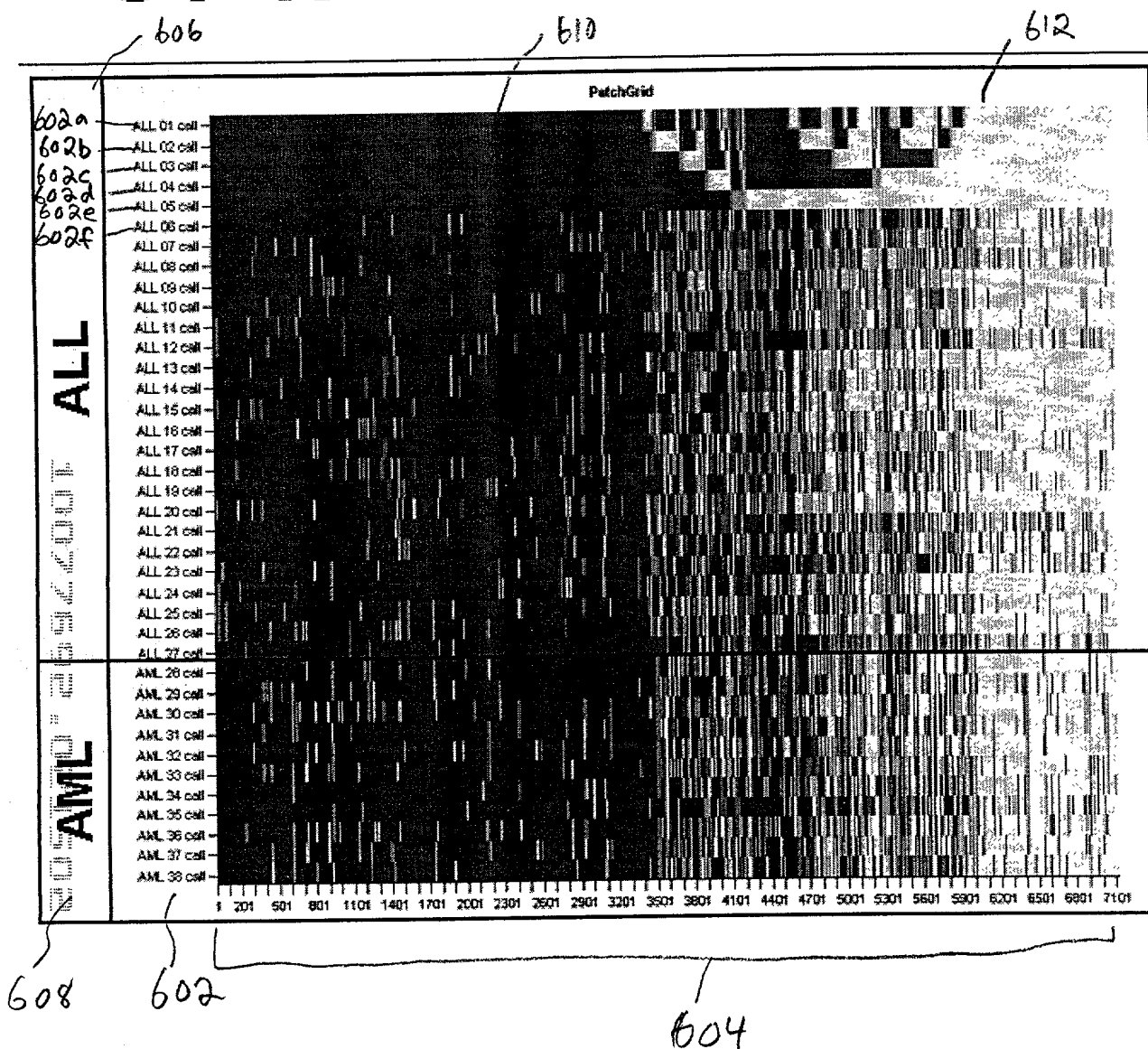


Figure 6D

2218917

10

Sorted 33 Dimensions

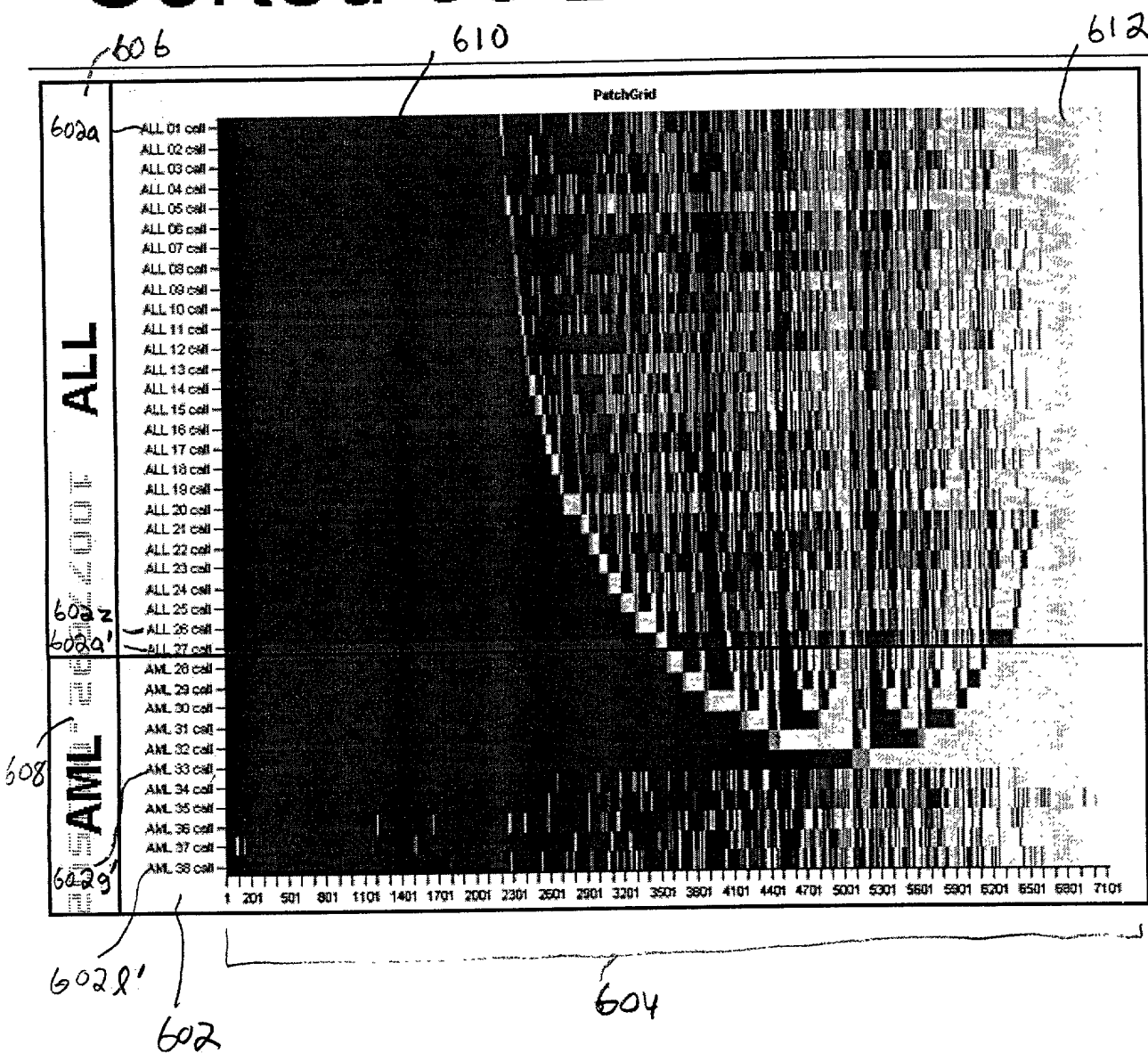


Figure 6E

2218917

All Dimensions Sorted

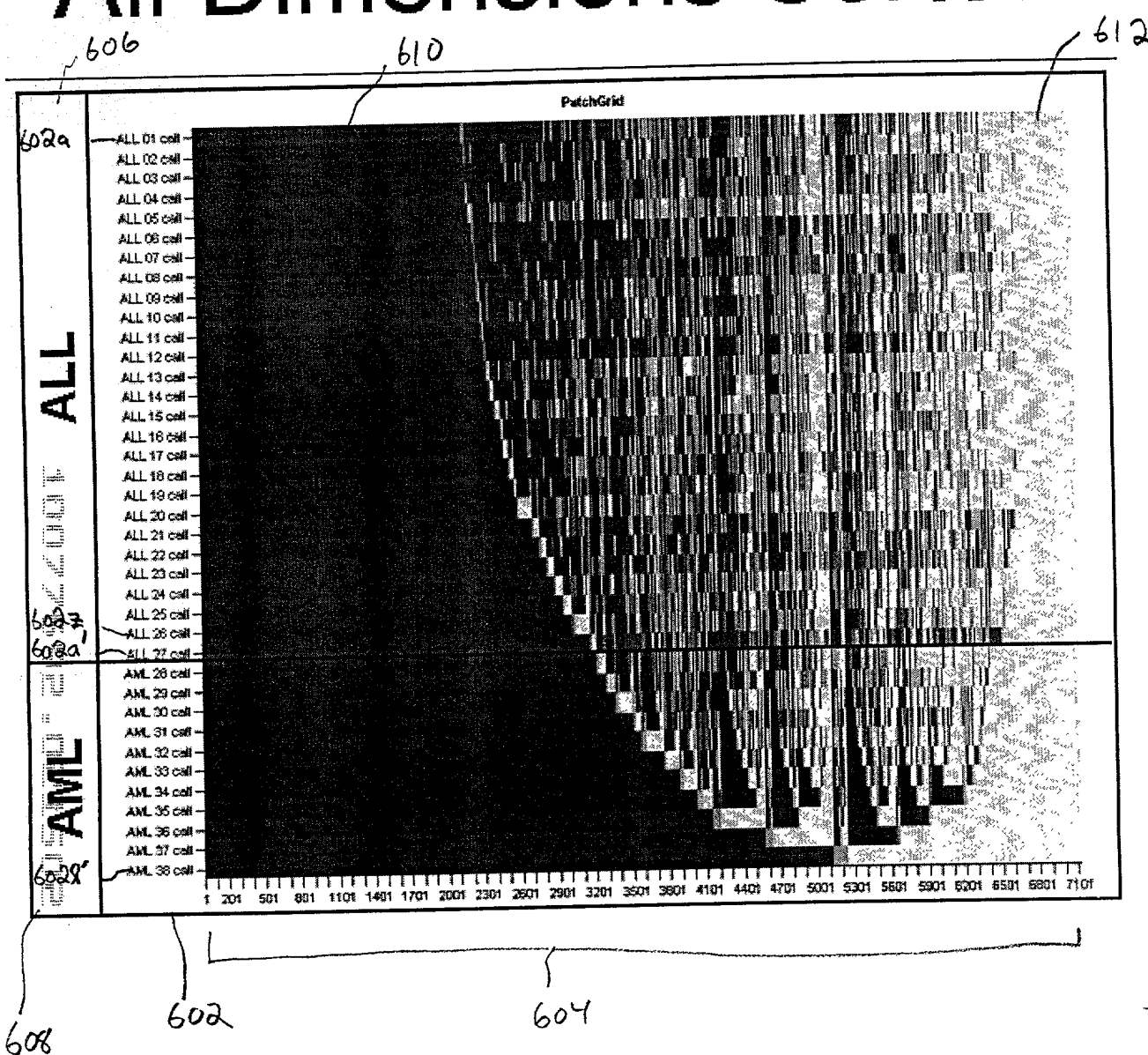
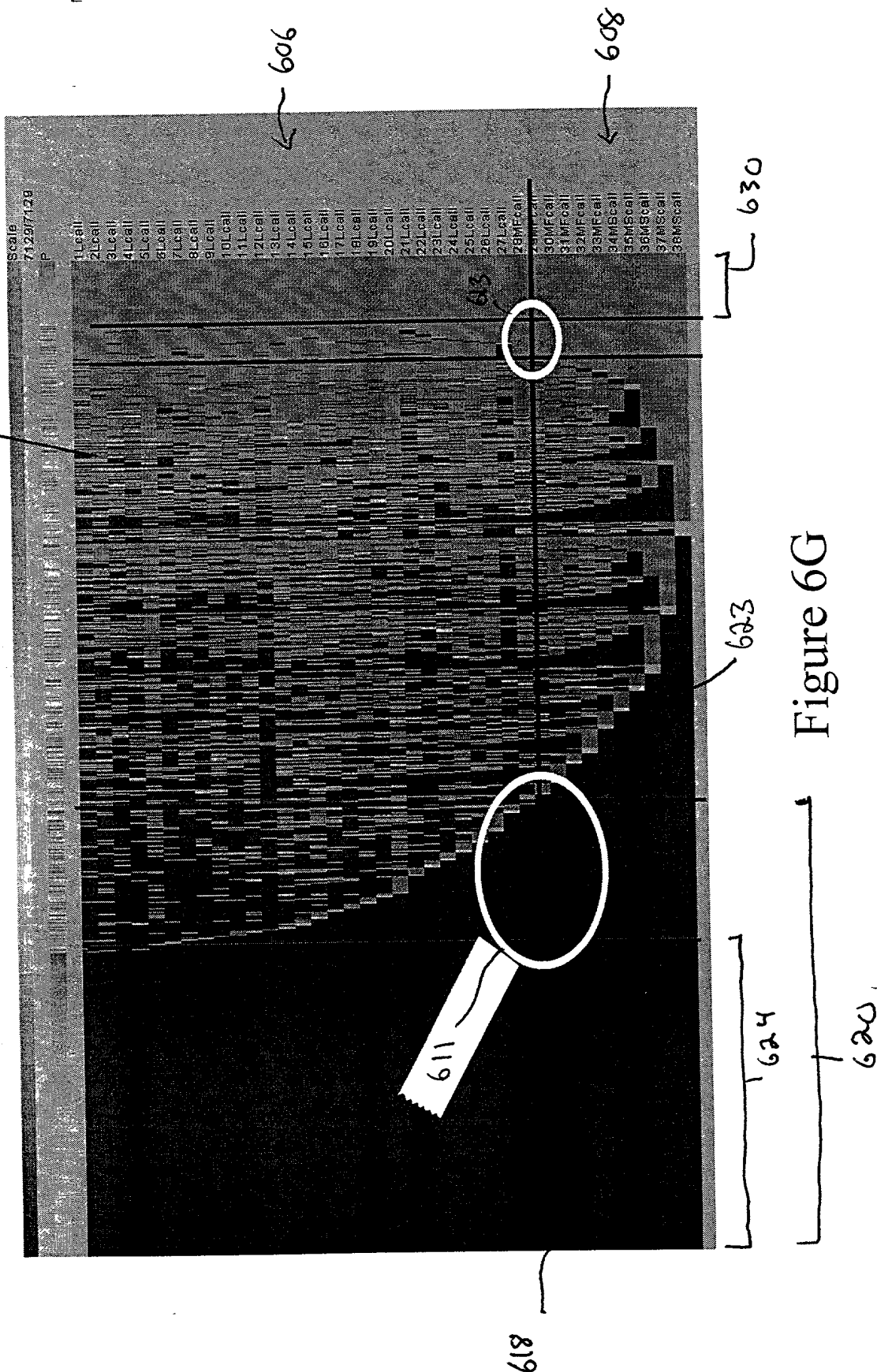


Figure 6F

2218917

6F



2271828-1

634
2

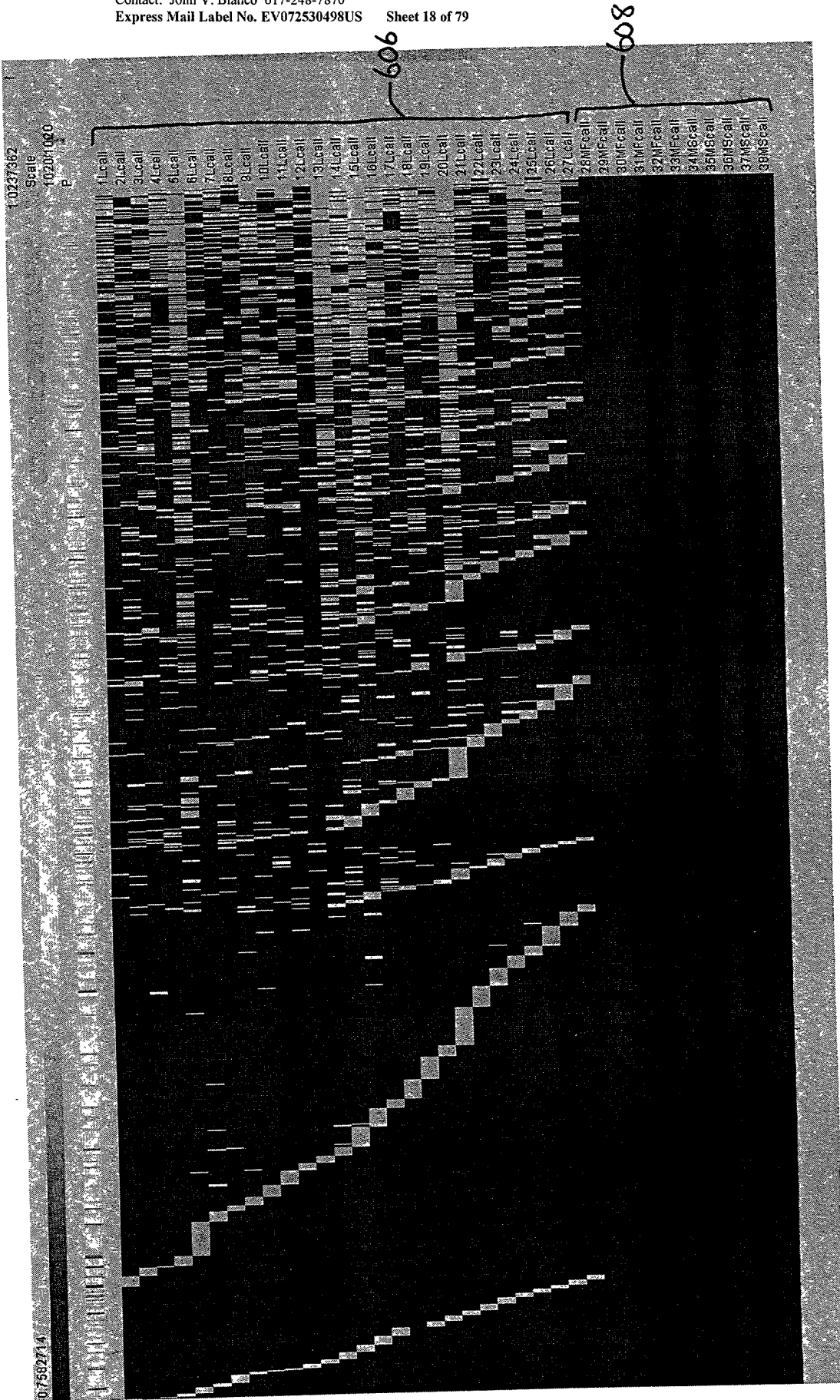


Figure 6H

Principal Uncorrelated Record Selection

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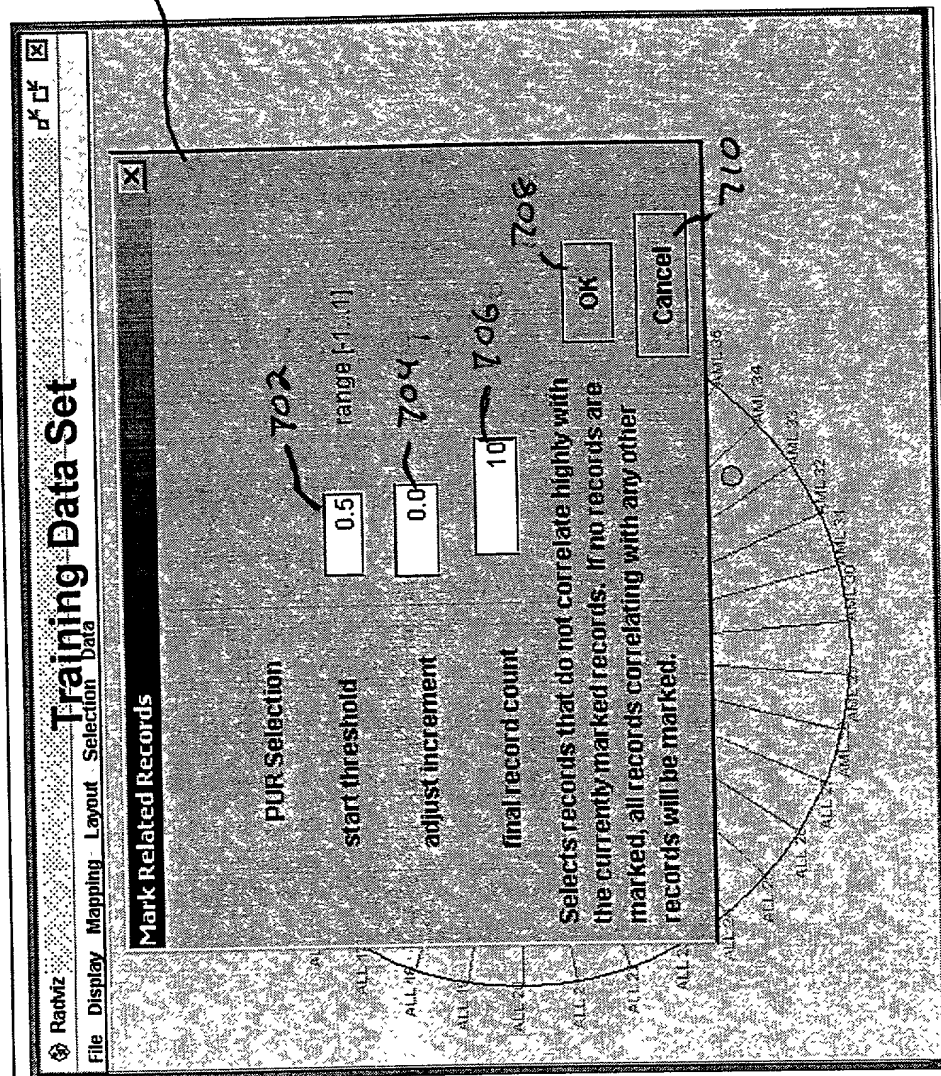


Figure 7

800

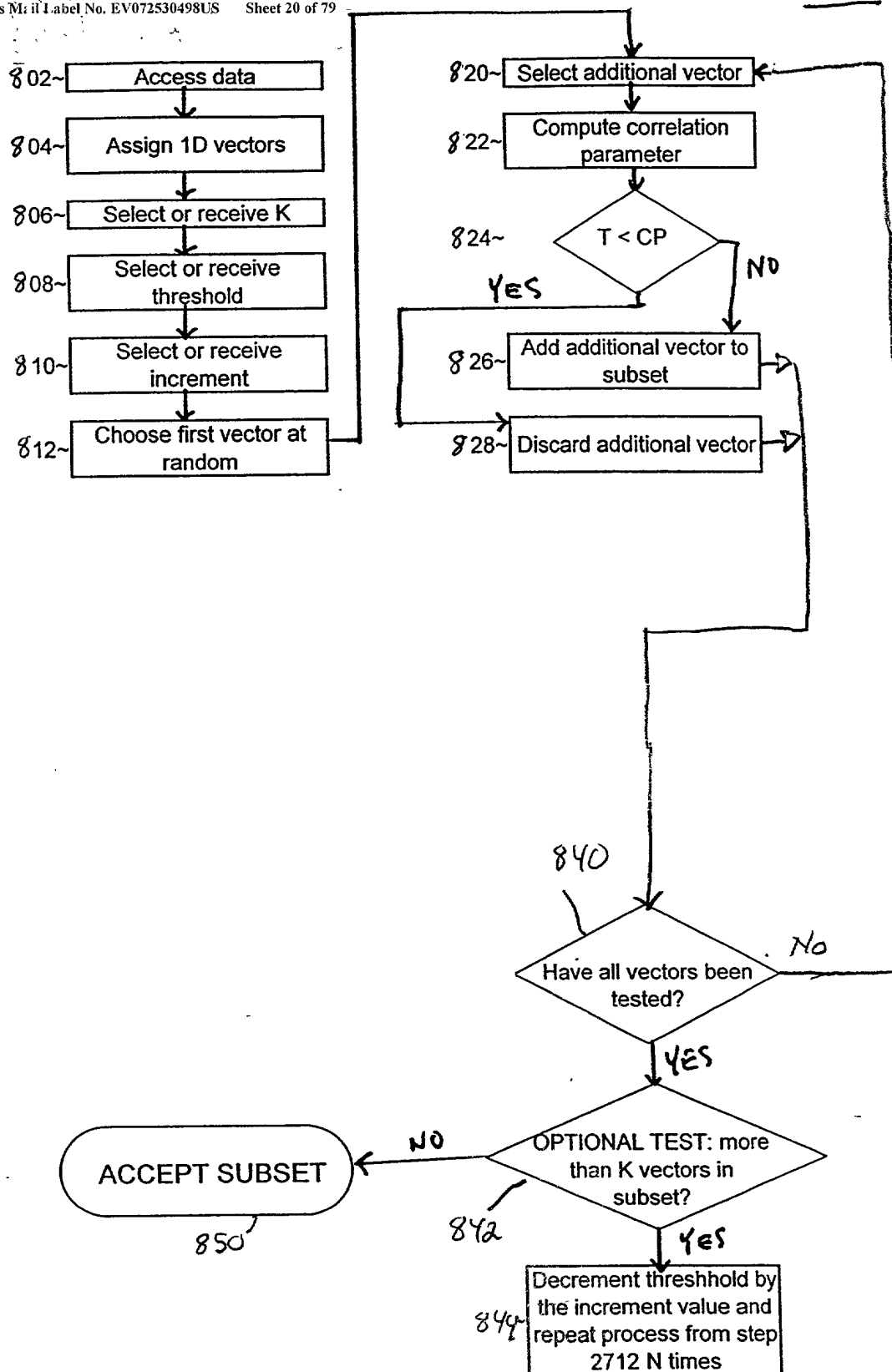


Figure 8

2268791

2007-06-26 14:00:00

4486502

76 Principal Uncorrelated Genes

Title: Method And System For Data Analysis
Inventor(s): Hoffman
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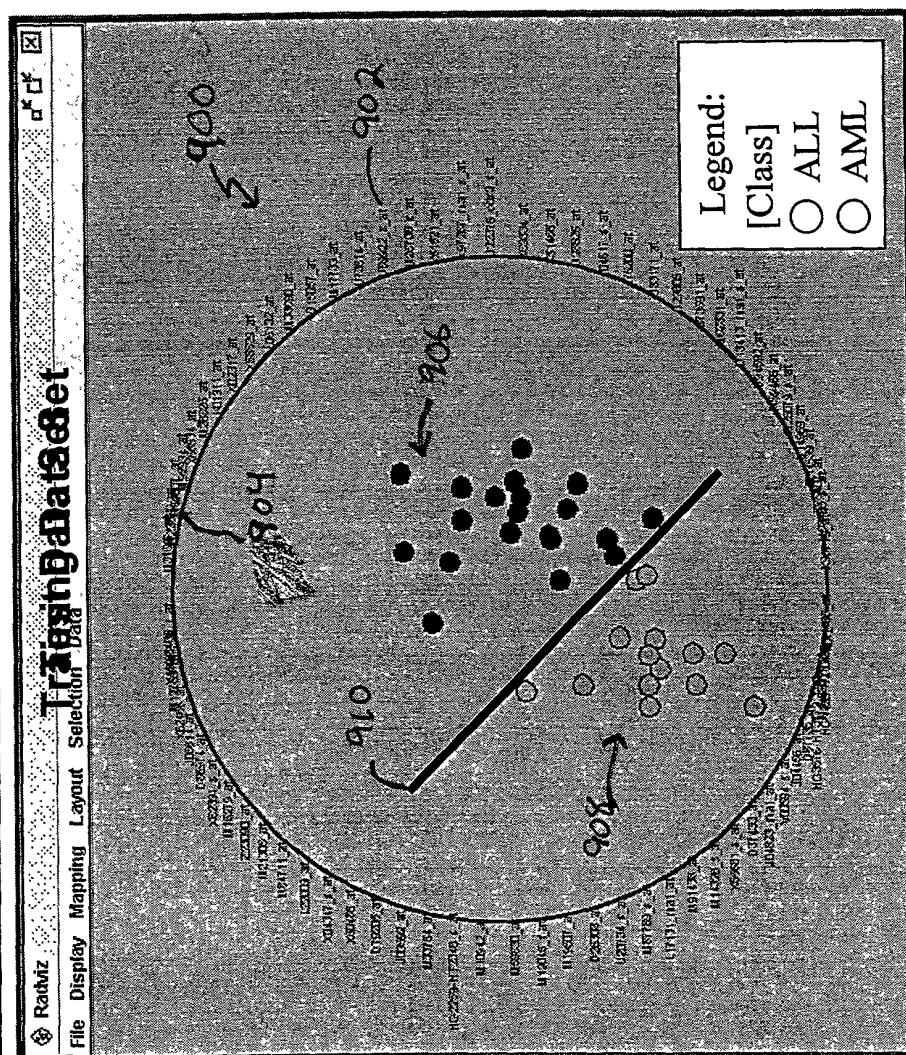


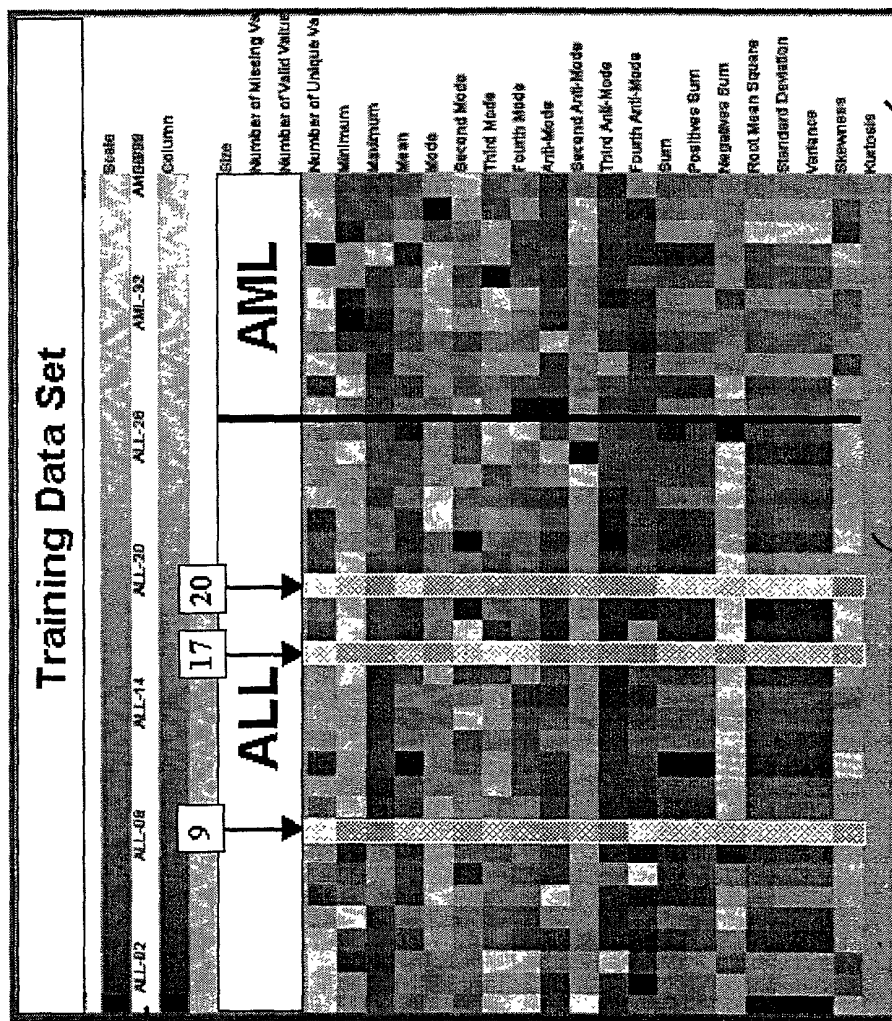
Figure 9

205720-269400F

Statistical Metadata

(Affymetrix Absolute Data)

1000



LOW HIGH

Figure 10A

Pearson Correlation Coefficients

(Affymetrix Absolute Data)

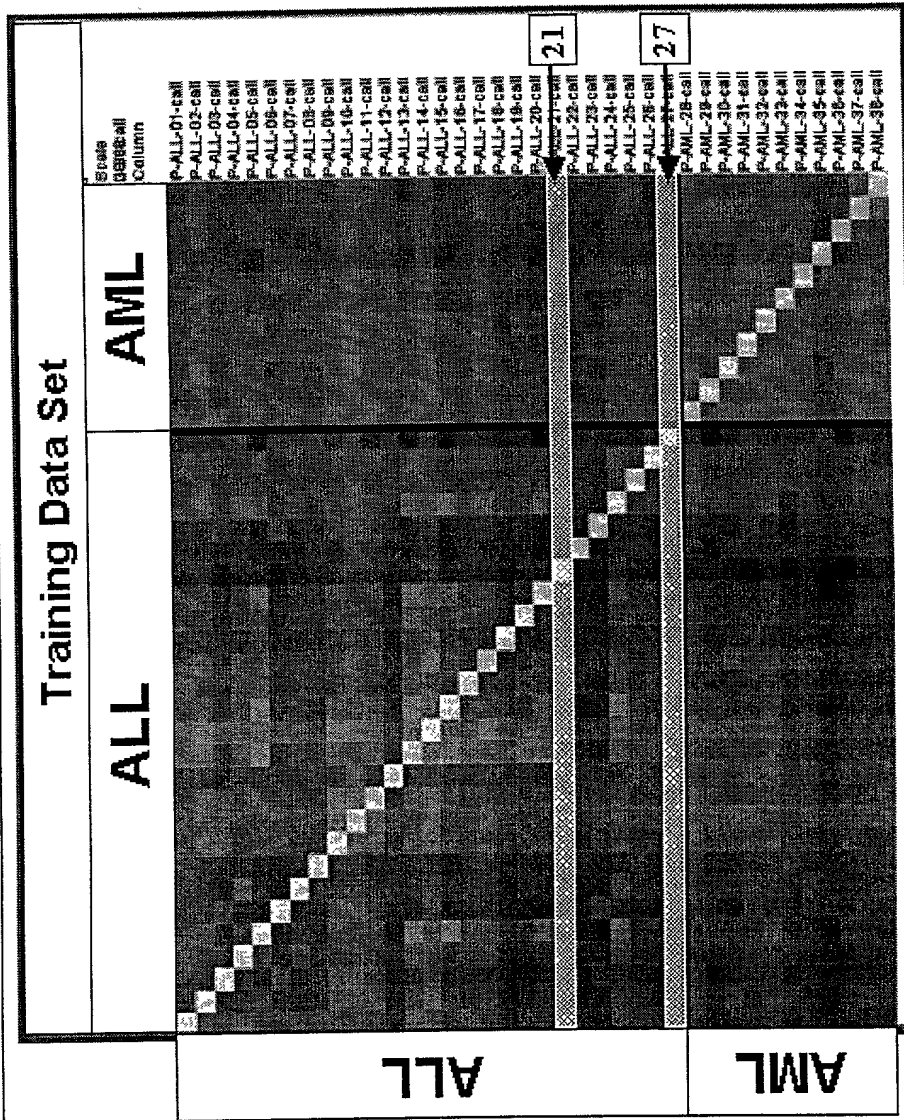
Training Data Set		Scale 3839 Column
ALL	AML	
ALL		P-ALL-01
		P-ALL-02
		P-ALL-03
		P-ALL-04
		P-ALL-05
		P-ALL-06
		P-ALL-07
		P-ALL-08
		P-ALL-09
		P-ALL-10
		P-ALL-11
		P-ALL-12
		P-ALL-13
		P-ALL-14
		P-ALL-15
		P-ALL-16
		P-ALL-17
		P-ALL-18
		P-ALL-19
		P-ALL-20
		P-ALL-21
		P-ALL-22
		P-ALL-23
		P-ALL-24
		P-ALL-25
		P-ALL-26
		P-ALL-27
		P-AML-28
	P-AML-29	
	P-AML-30	
	P-AML-31	
	P-AML-32	
	P-AML-33	
	P-AML-34	
	P-AML-35	
	P-AML-36	
	P-AML-37	
	P-AML-38	

Figure 10B

2218917

Pearson Correlation Coefficients (Affymetrix Comparative Data)

1003
2



(38 x 38)



Figure 10C

2218917

209420-26922001

11.00

Final Result

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Example Record 20

Variable 1	Variable 2	Variable 3	Variable 4	Variable 5	Variable 6	Variable 7	Variable 8	Variable 9	Variable 10	Variable 11	Variable 12	Variable 13	Variable 14	Variable 15	Variable 16
A	A	B	C	101	22.50	2.70	3.00	3.25	A	0.29	2.38	5.70	1.19	2.71	1285

306

Figure 11A

2218917

Sort - Variable 1

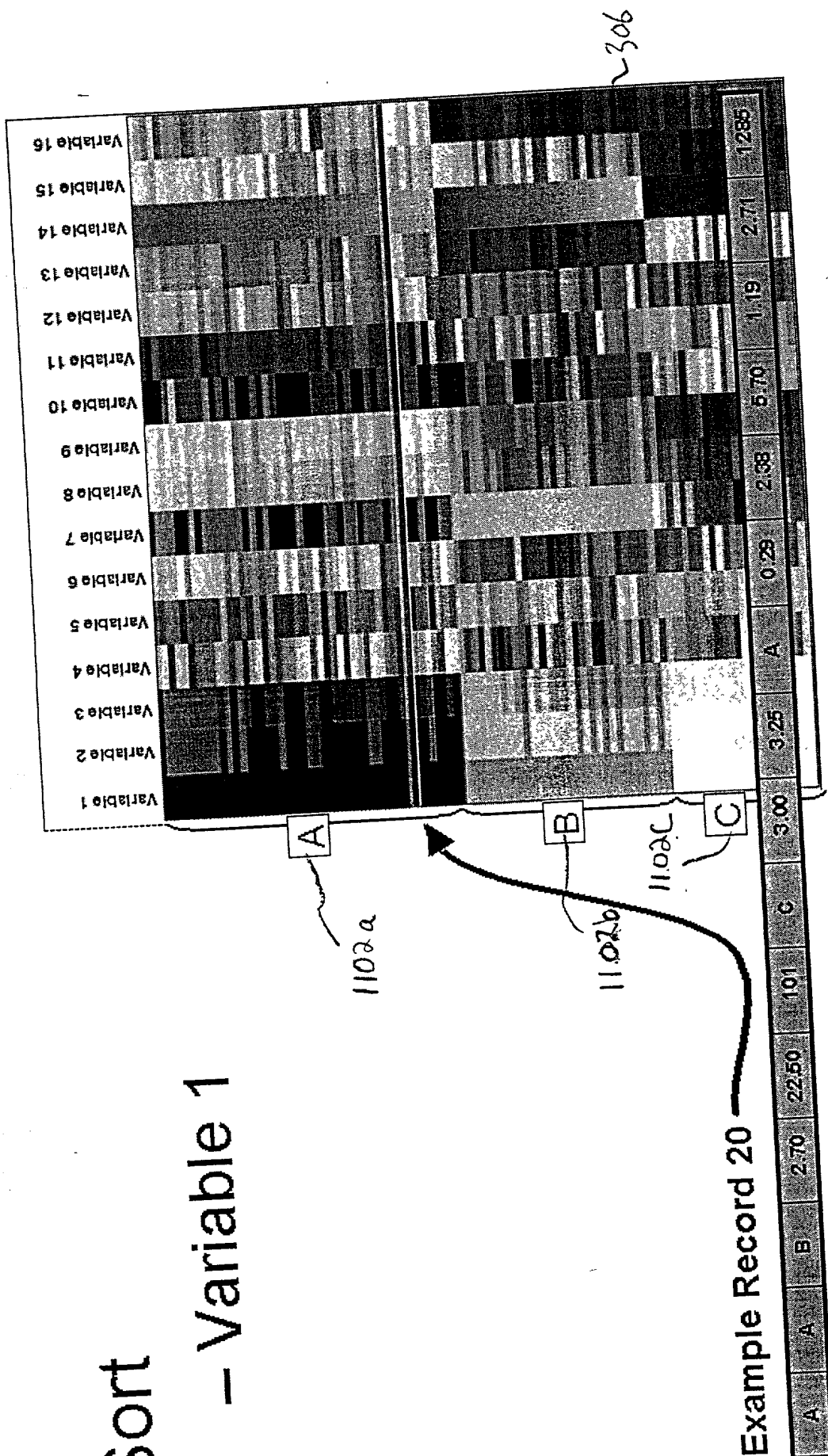
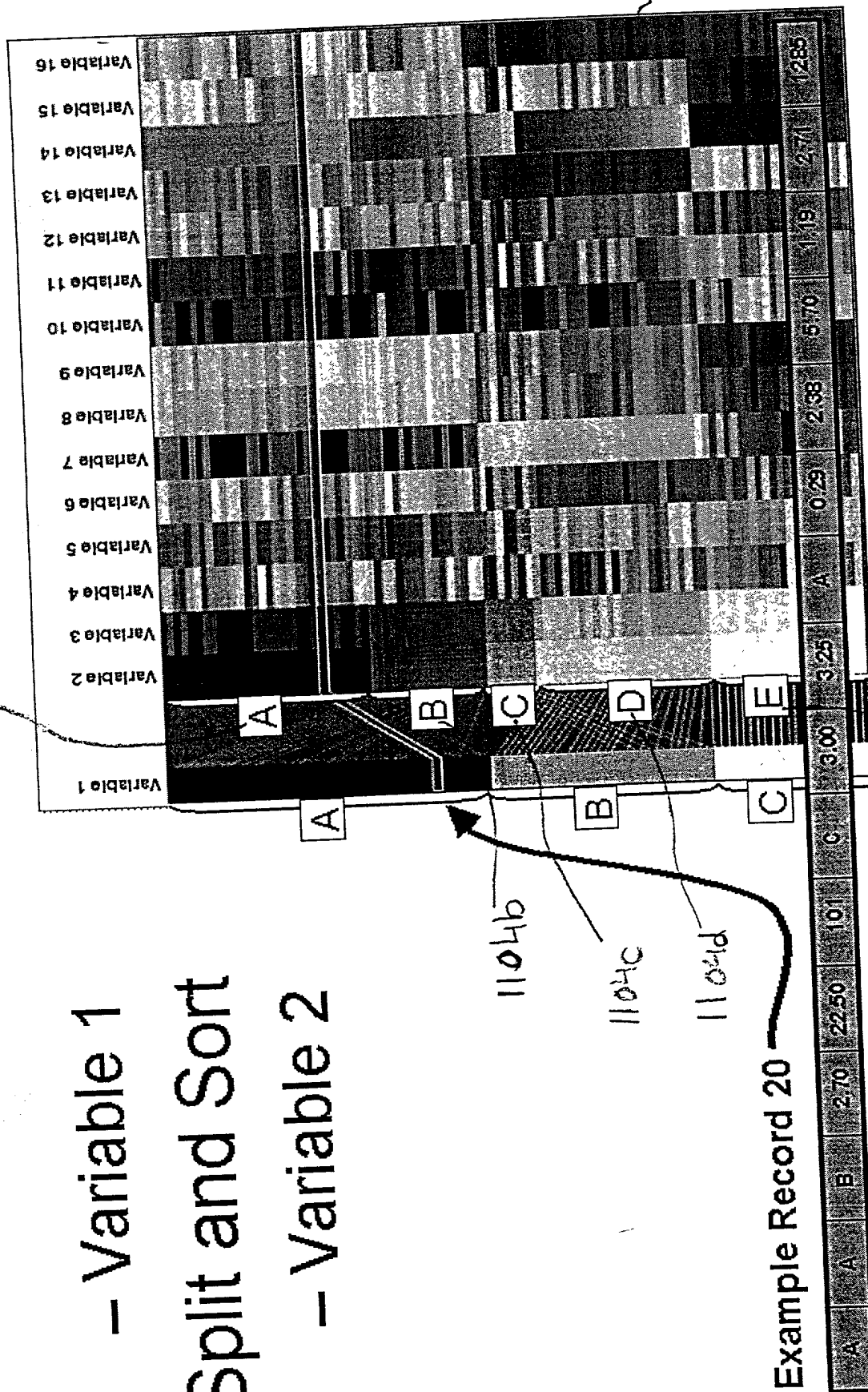


Figure 11b

2218917

- Variable 1 Split and Sort - Variable 2

1104a



1104c Figure 11C

2218917

- Variable 1
- Variable 2
- Split and Sort
- Variable 3

Example Record 20

A	A	B	2.70	22.50	101	6	3.00	3.25	0.29	2.38	5.70	1.19	2.71	1285
---	---	---	------	-------	-----	---	------	------	------	------	------	------	------	------

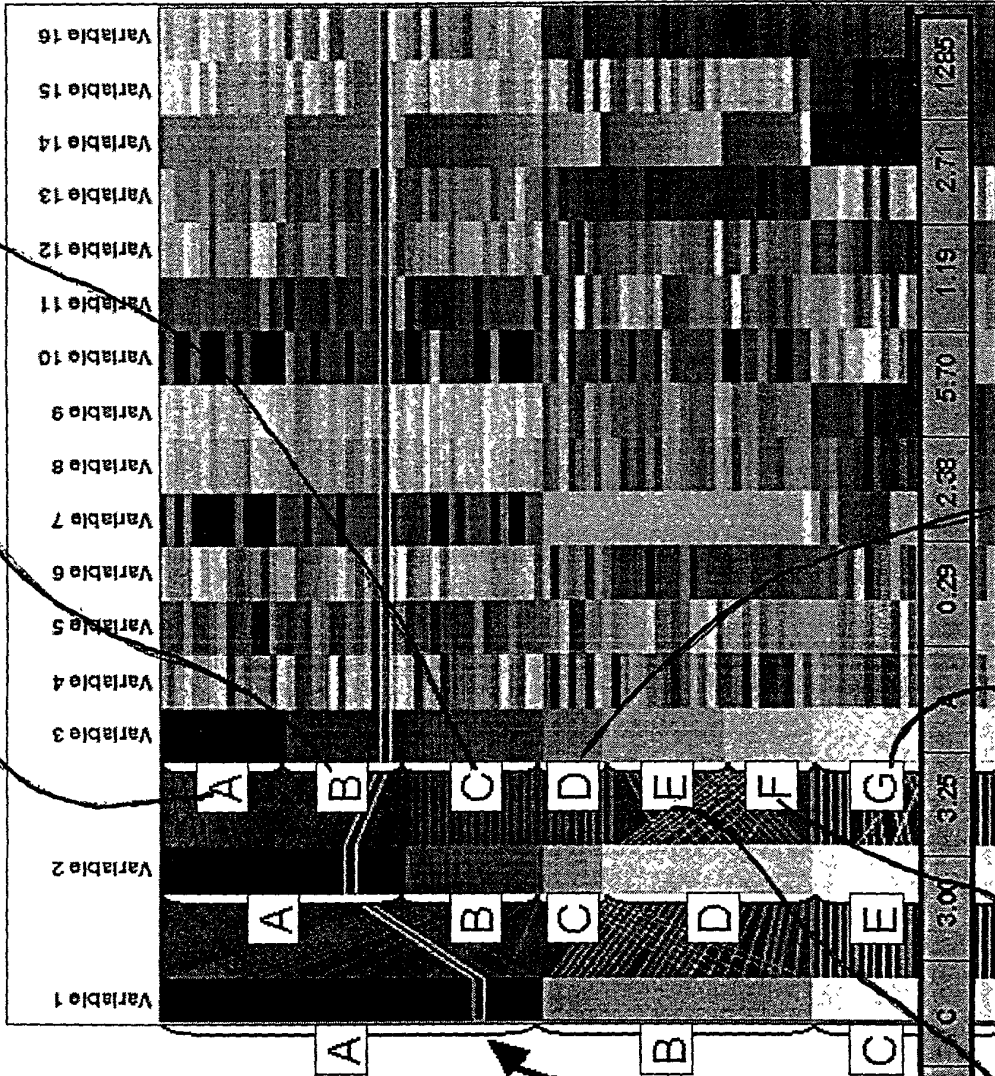


Figure 11D

2000-09-20 14:00

Final Result

Title: Method And System For Data Analysis
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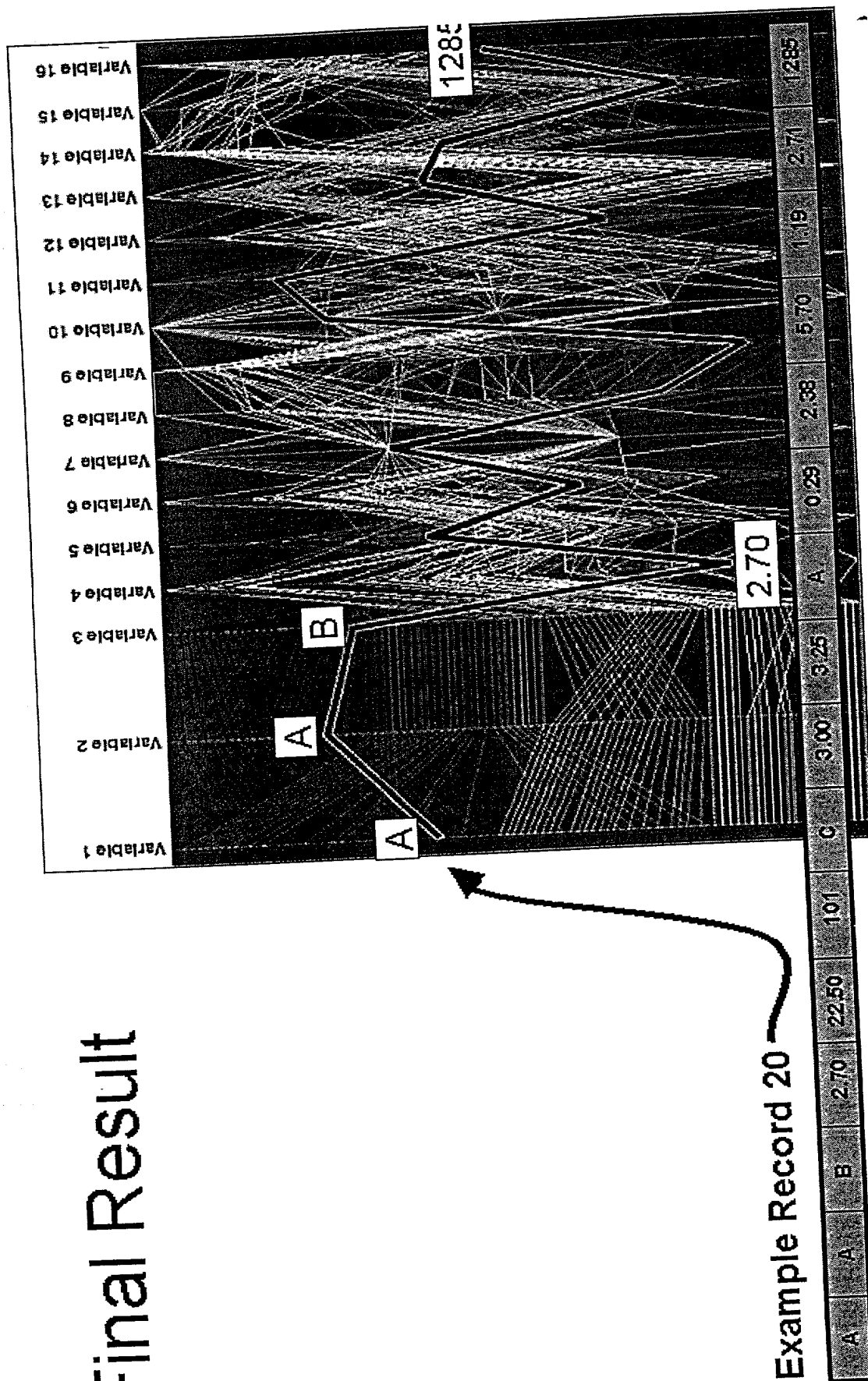


Figure 11E

2218917

Example record showing the underlying connections

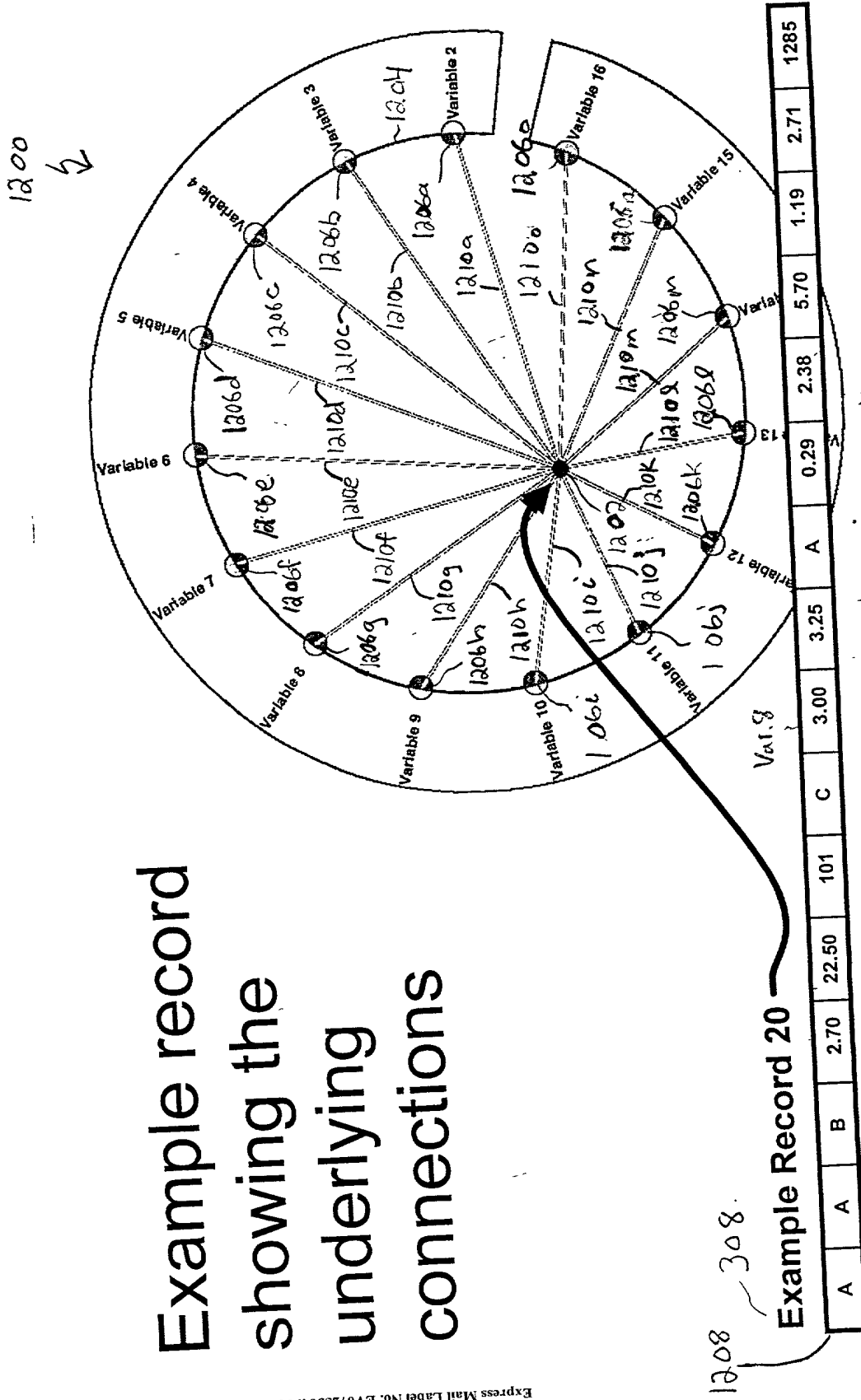


Figure 12A

1200

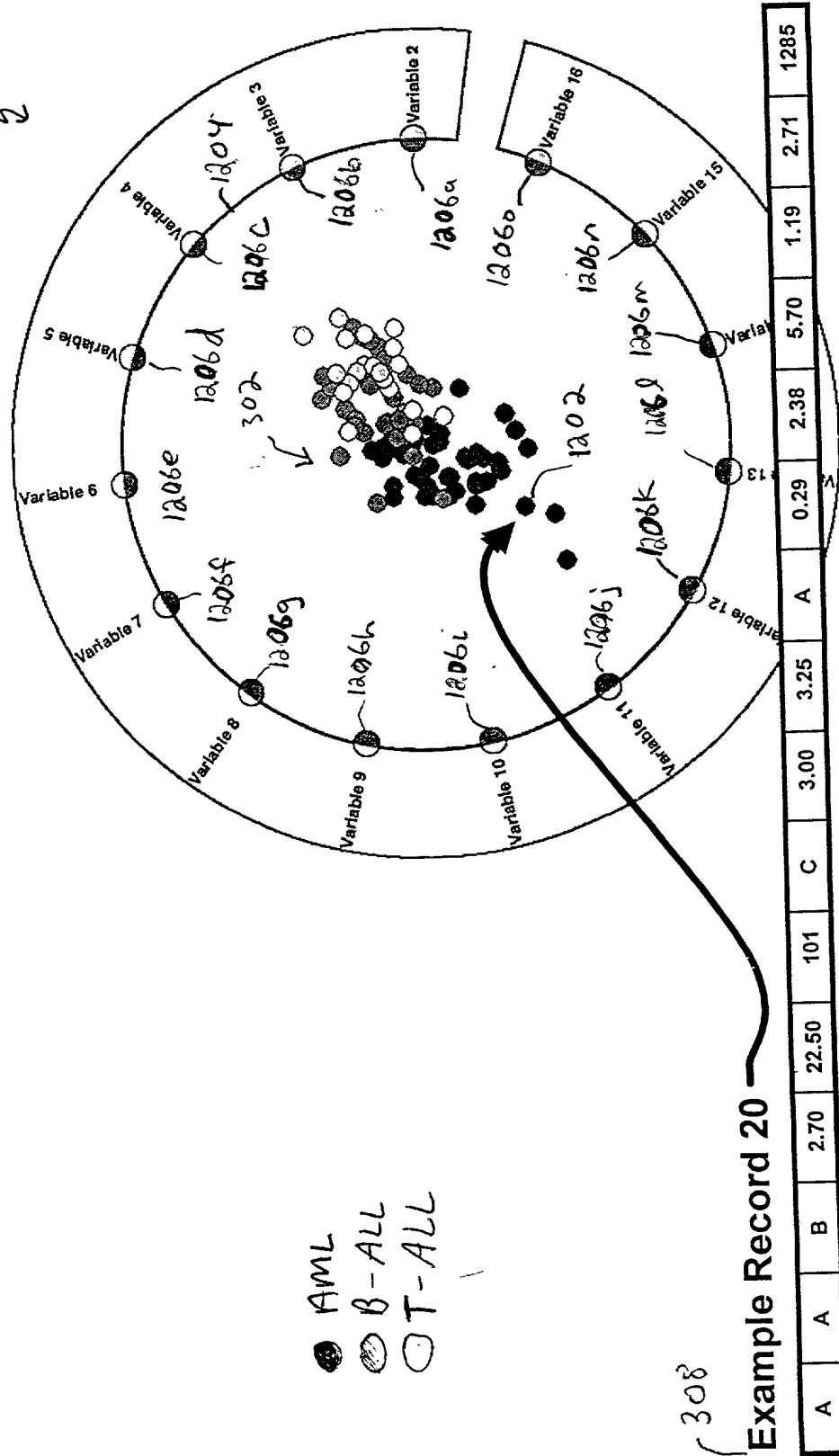


Figure 12B

2259888

Visual Classifier

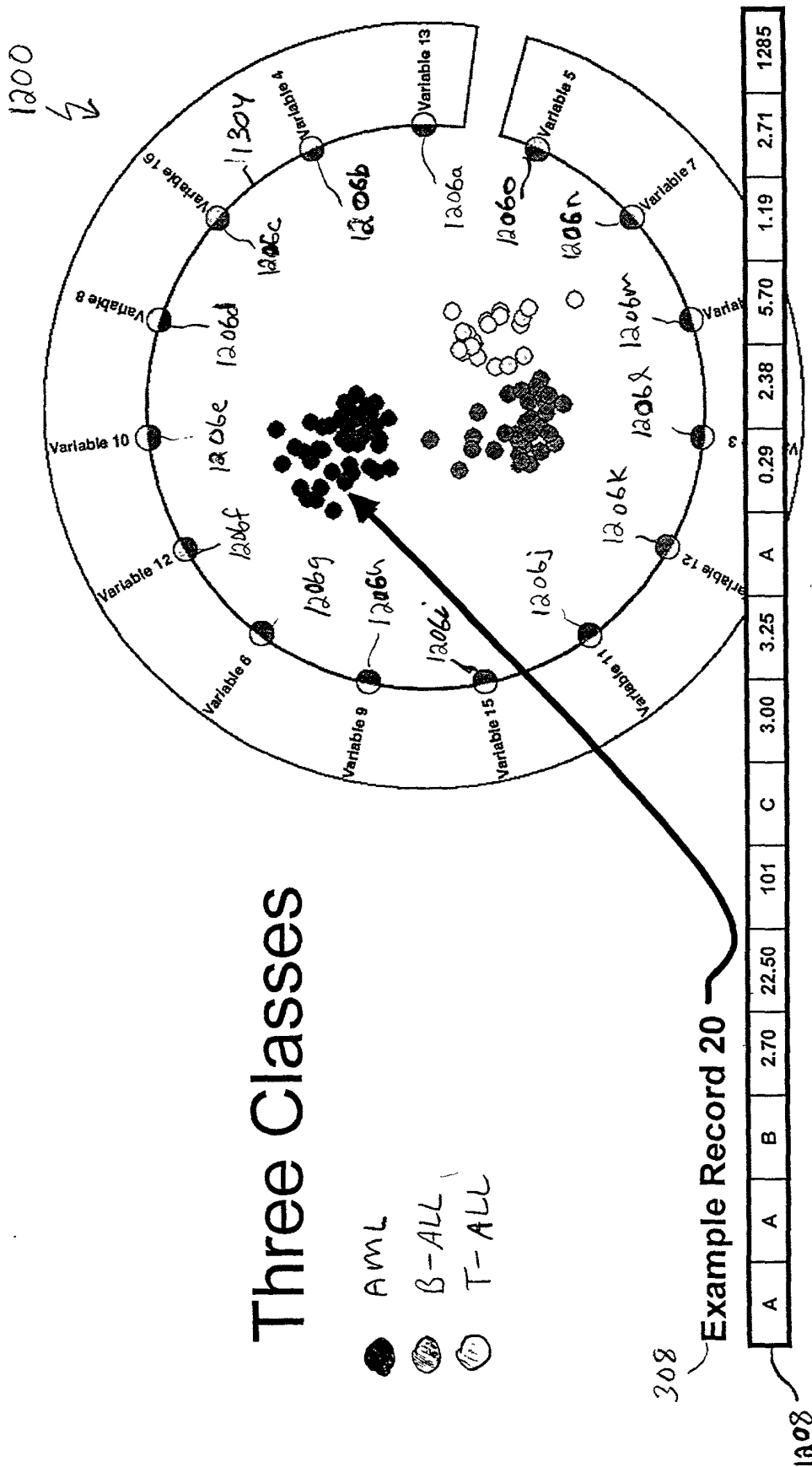


Figure 12C

2259888



Figure 13A

226937

2061-2001

1301

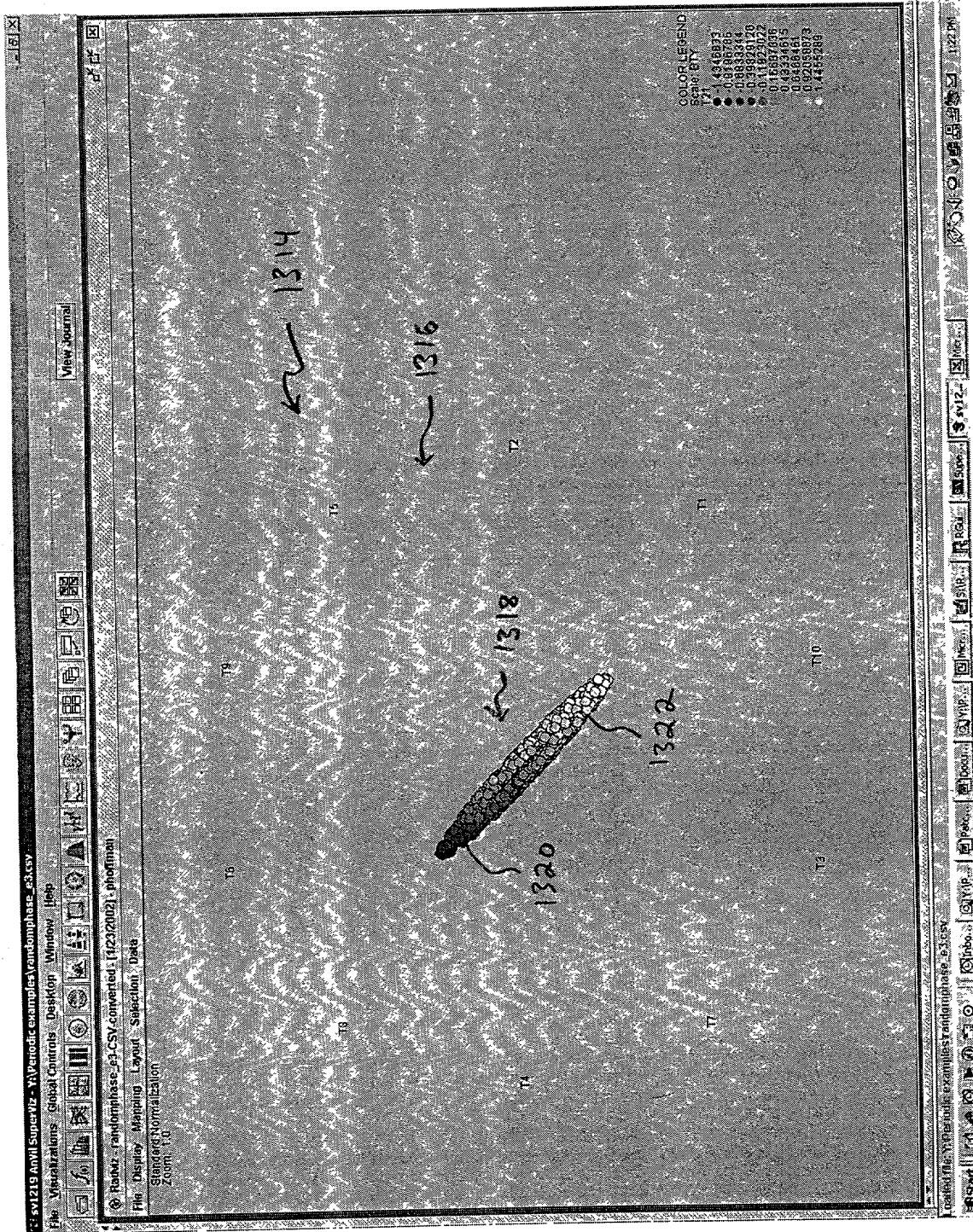


Figure 13B

2269307

205 FEB 2007

1303

Title: Method And System For Data Analysis
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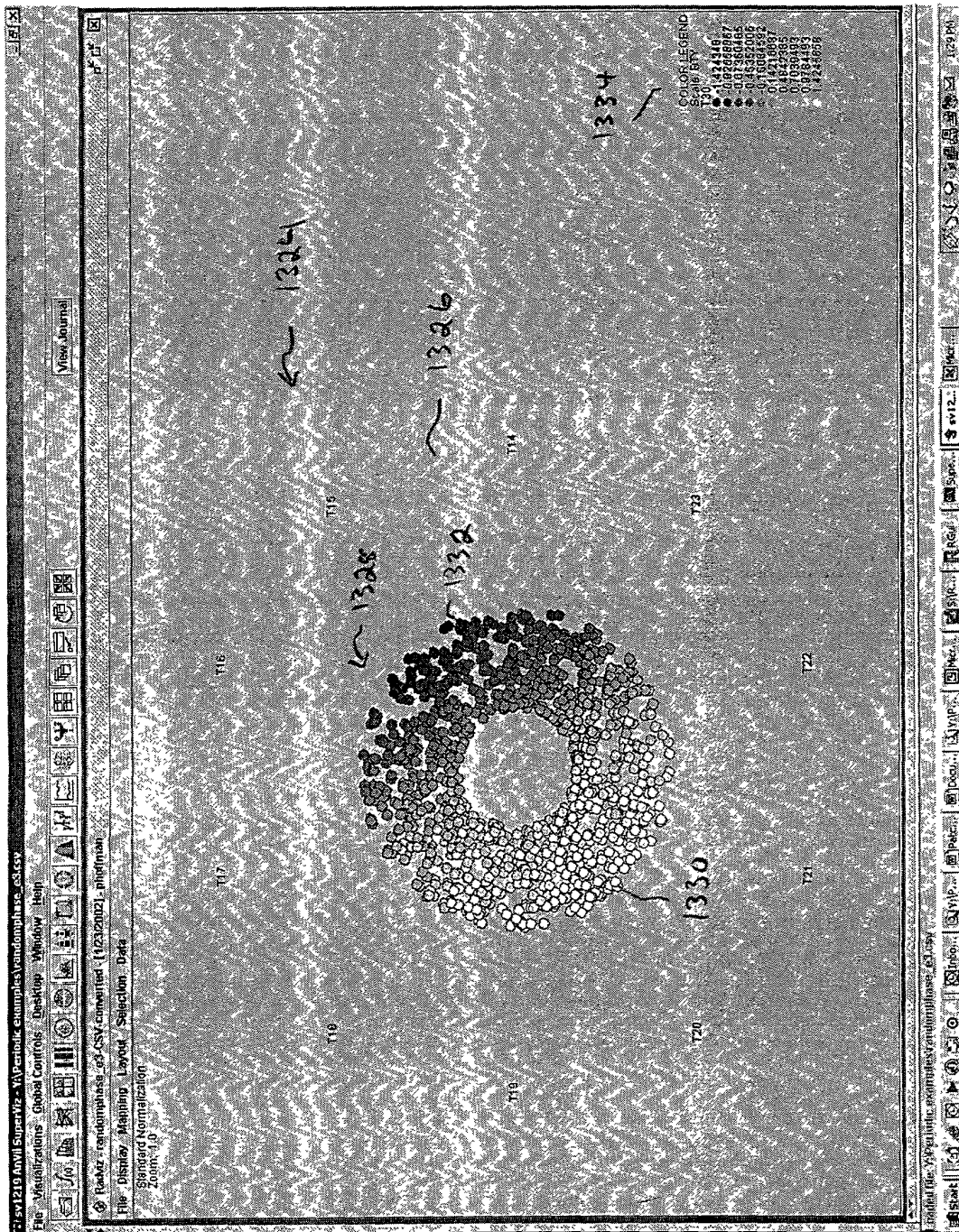


Figure 13C

226937

2025-09-26 13:05

1305

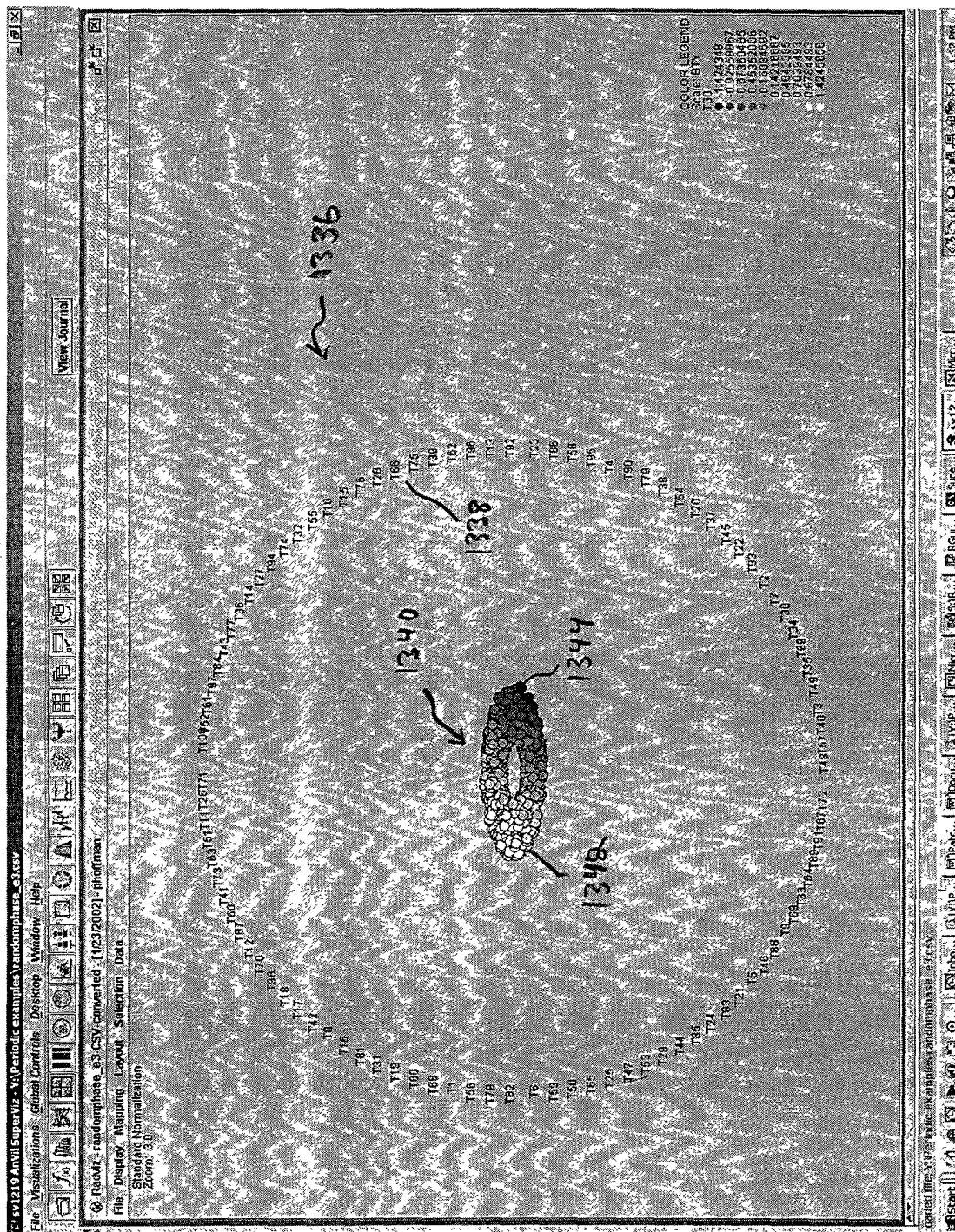


Figure 13D

226937

205400 2596000

1307

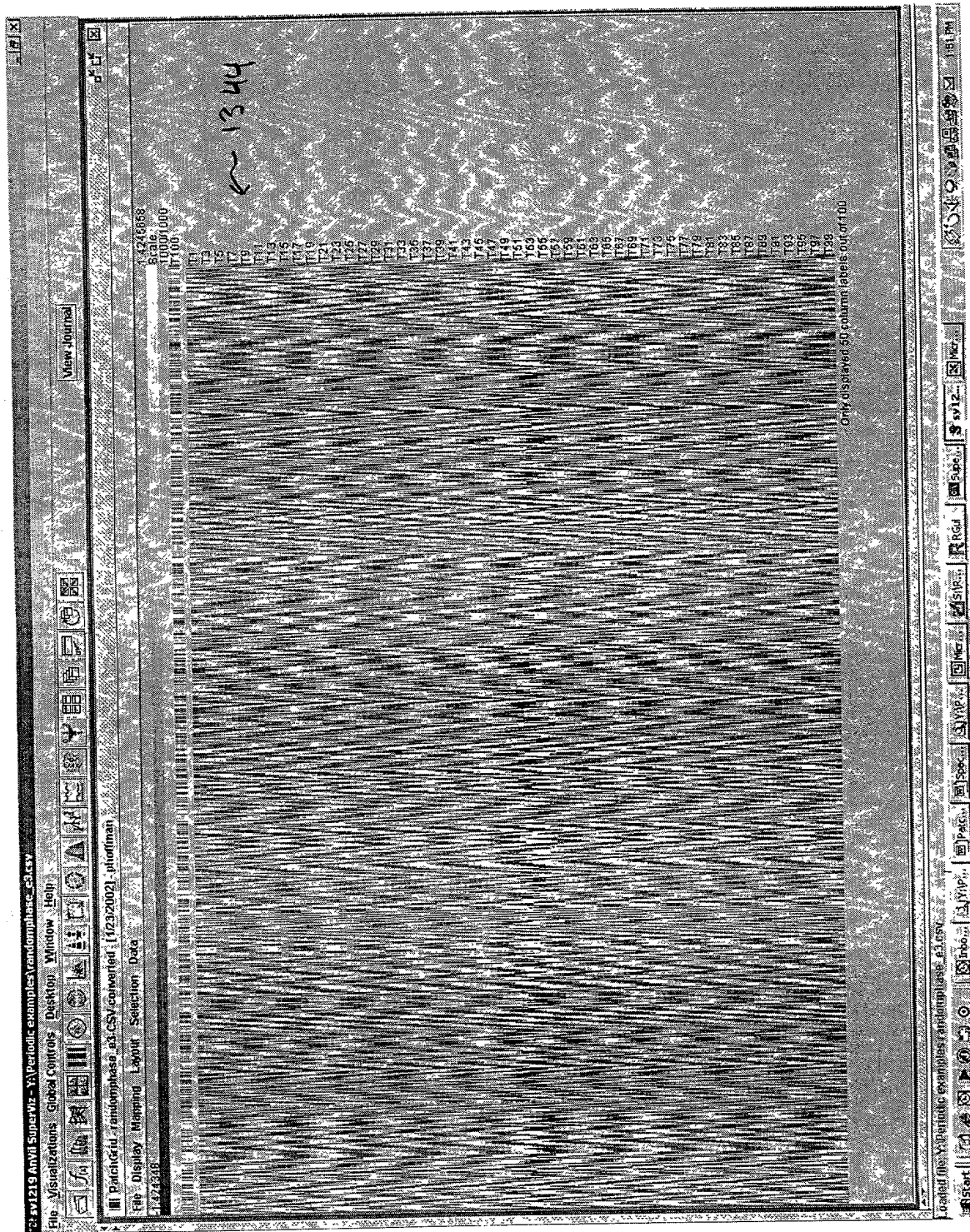


Figure 13E

226937

205720" 2592200T

1309

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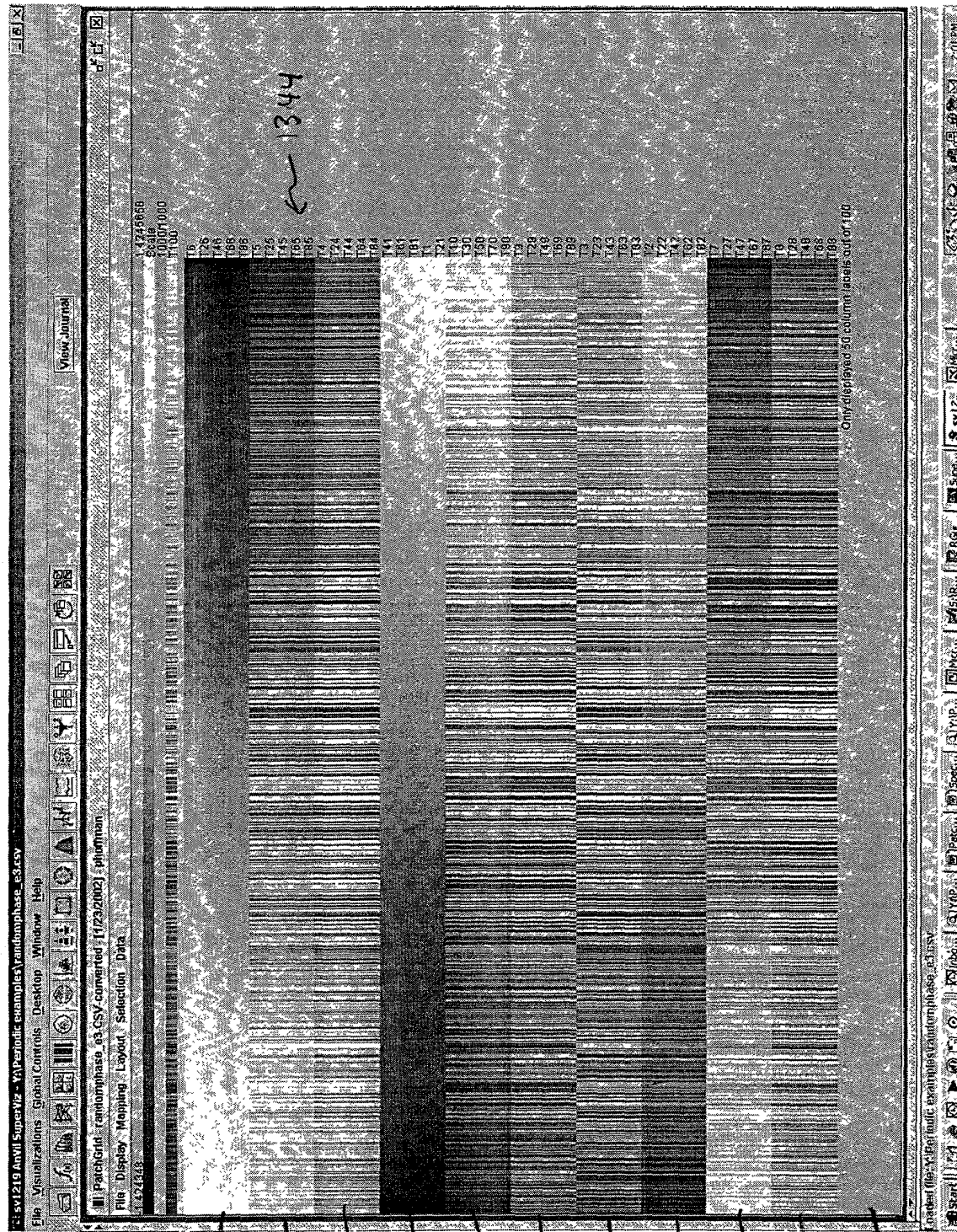


Figure 13C

226937

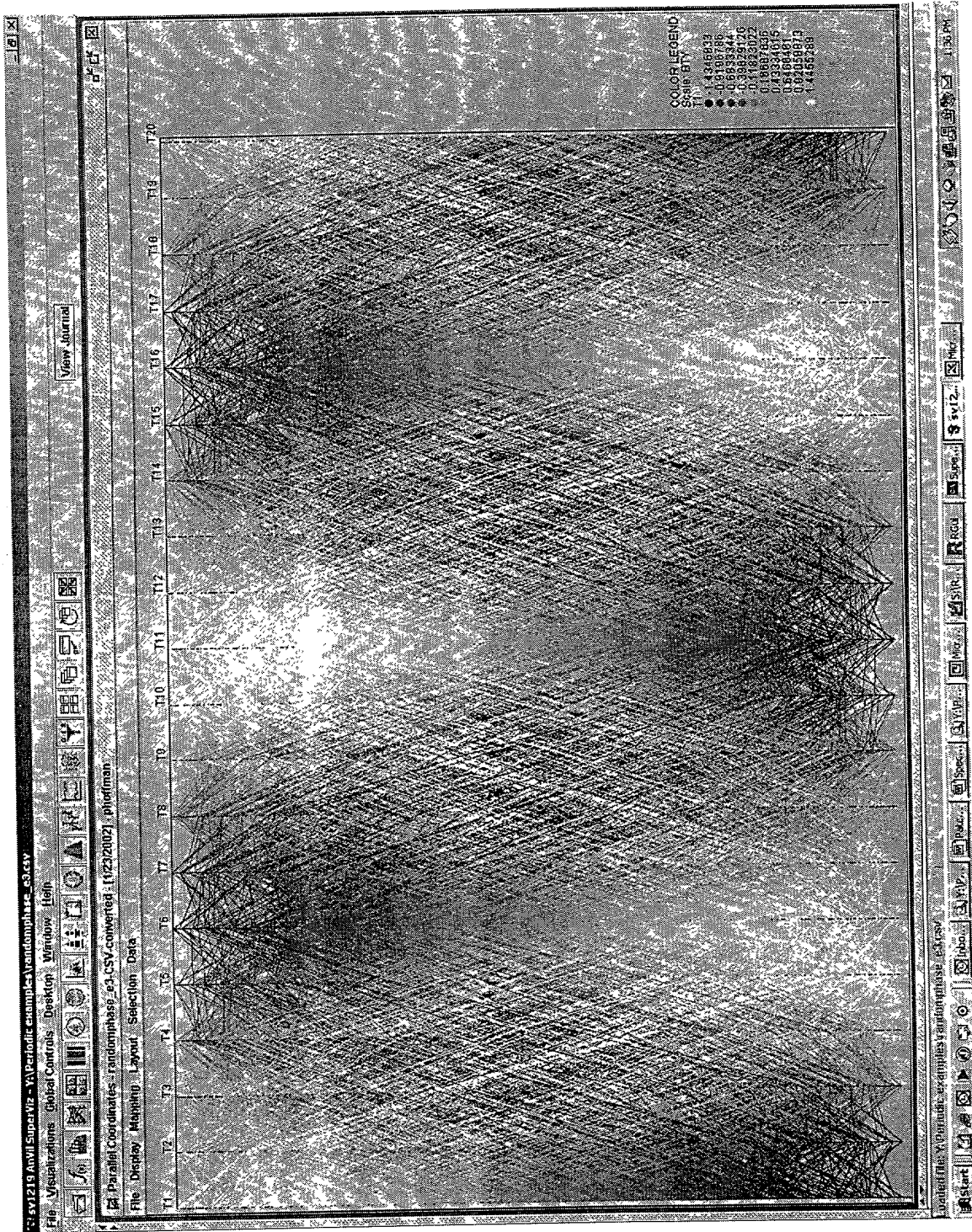


Figure 13G

226937

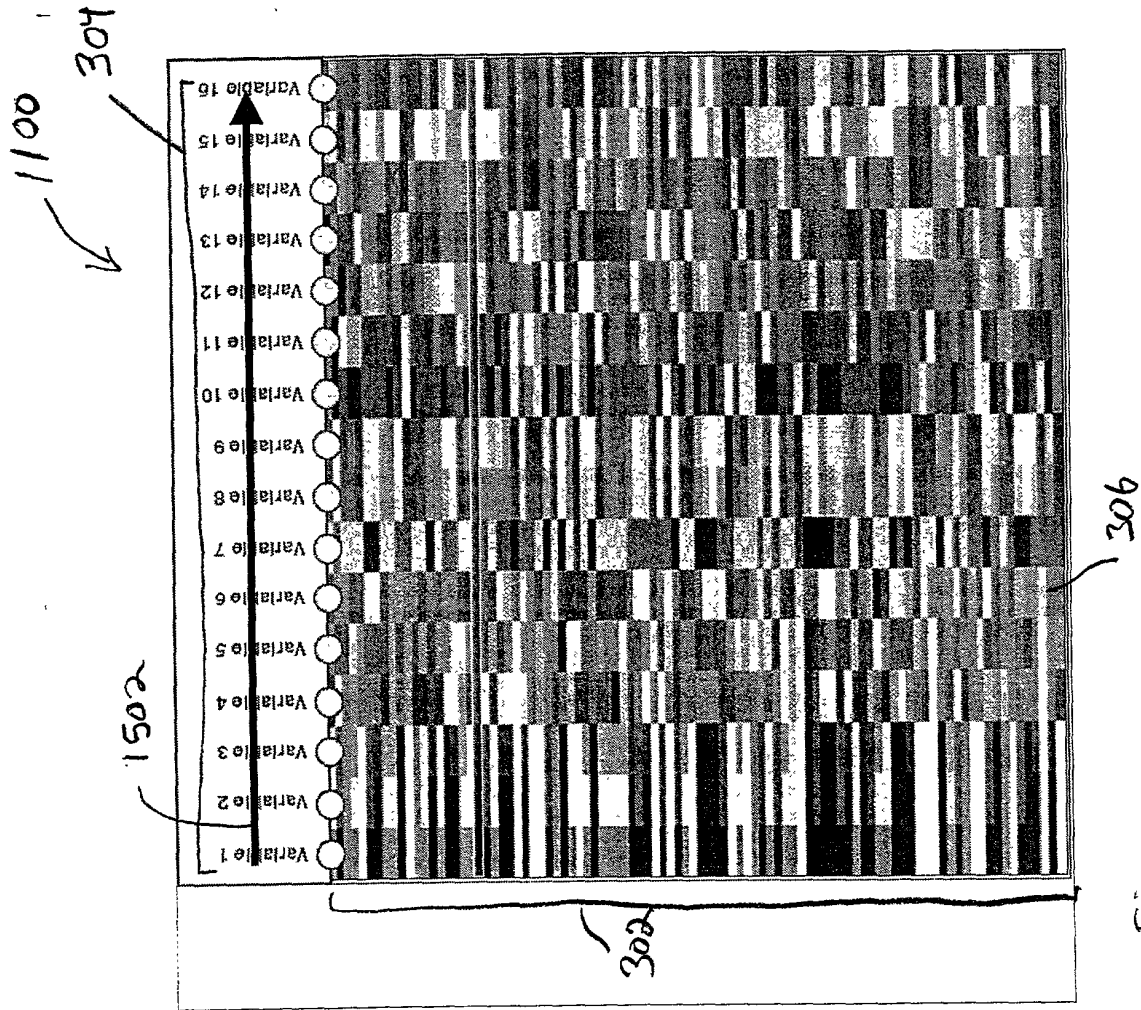


Figure 15A

Transforming a
 rectangular to a
 radial layout

Radial Layout

Transforming a
 rectangular to a
 radial layout

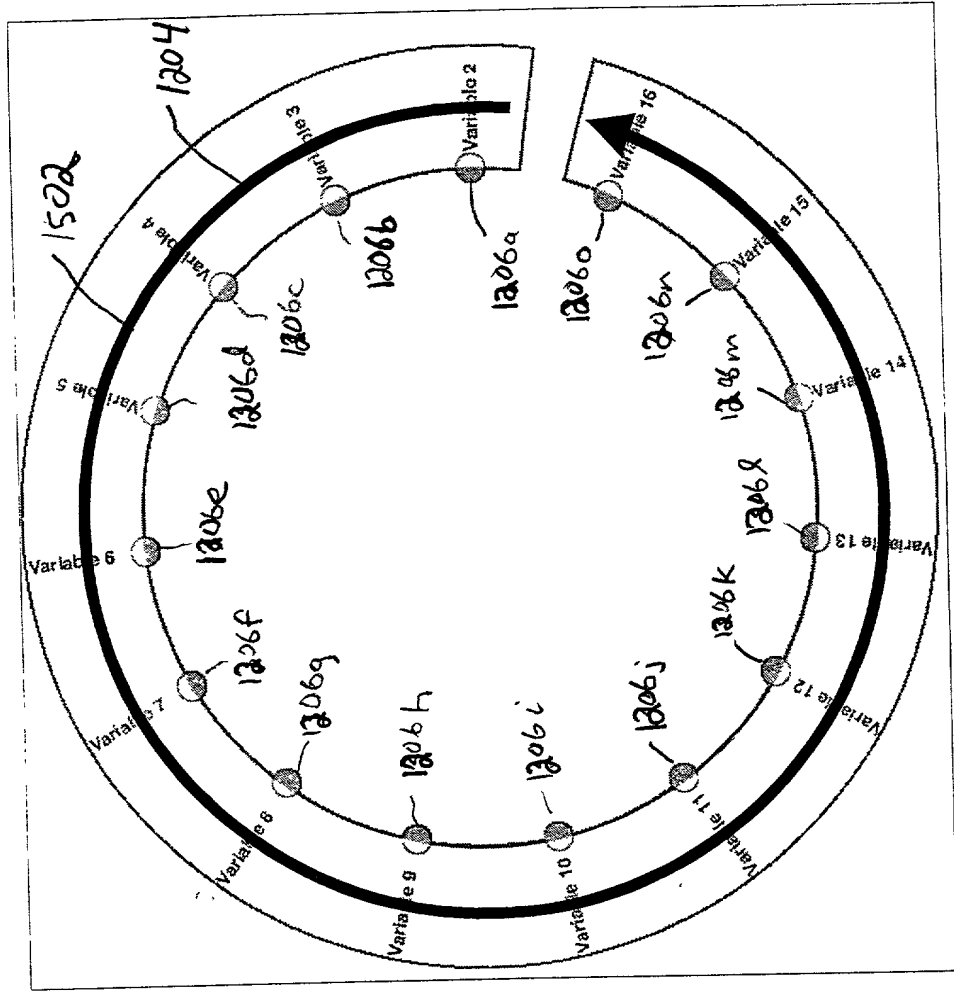


Figure 150

Transforming a rectangular to a radial layout



20051120 2634200F

Shape Control - Before Moving Anchors

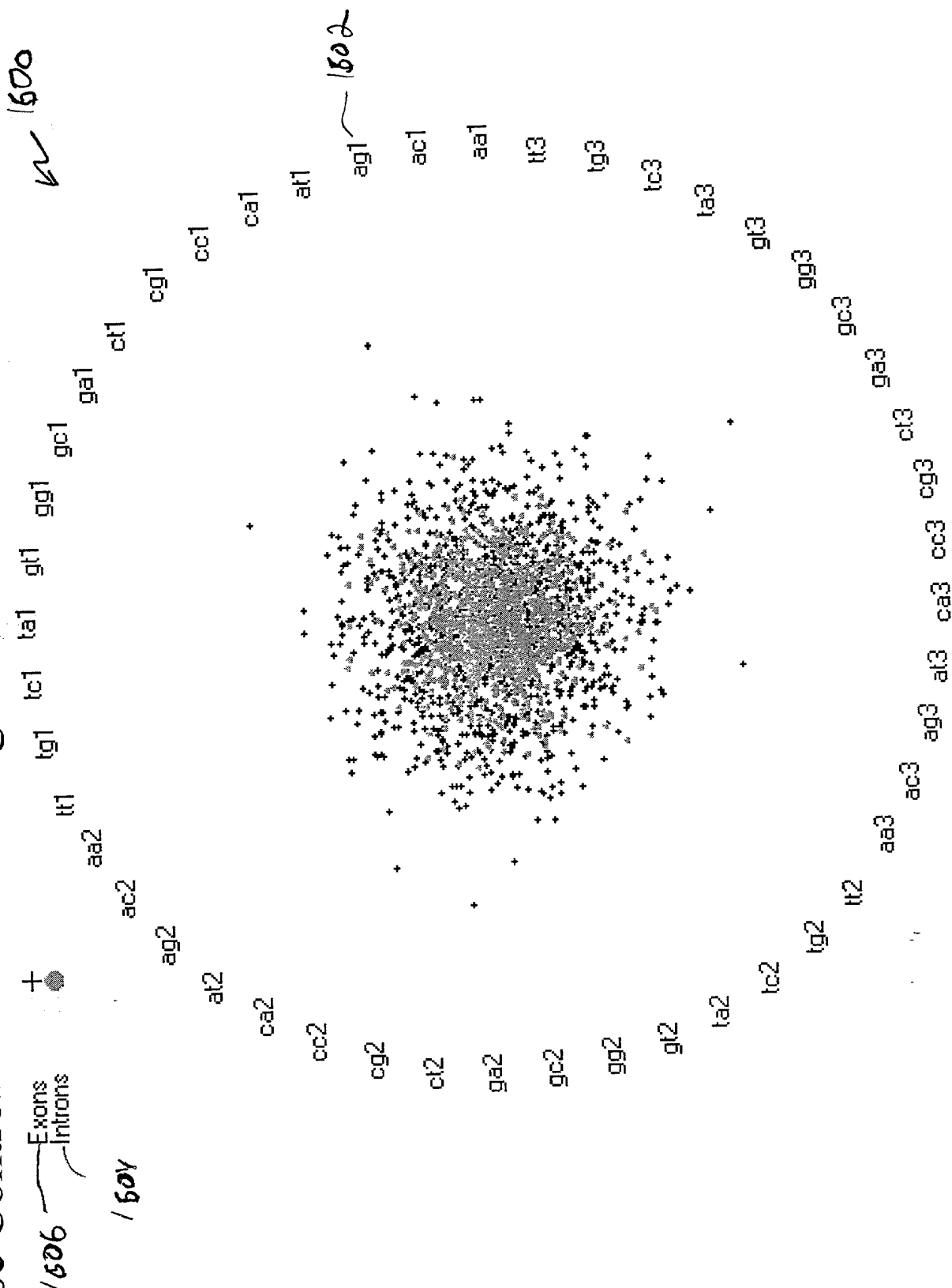


Figure 16A

205120-26922001

Shape Control - Ellipse

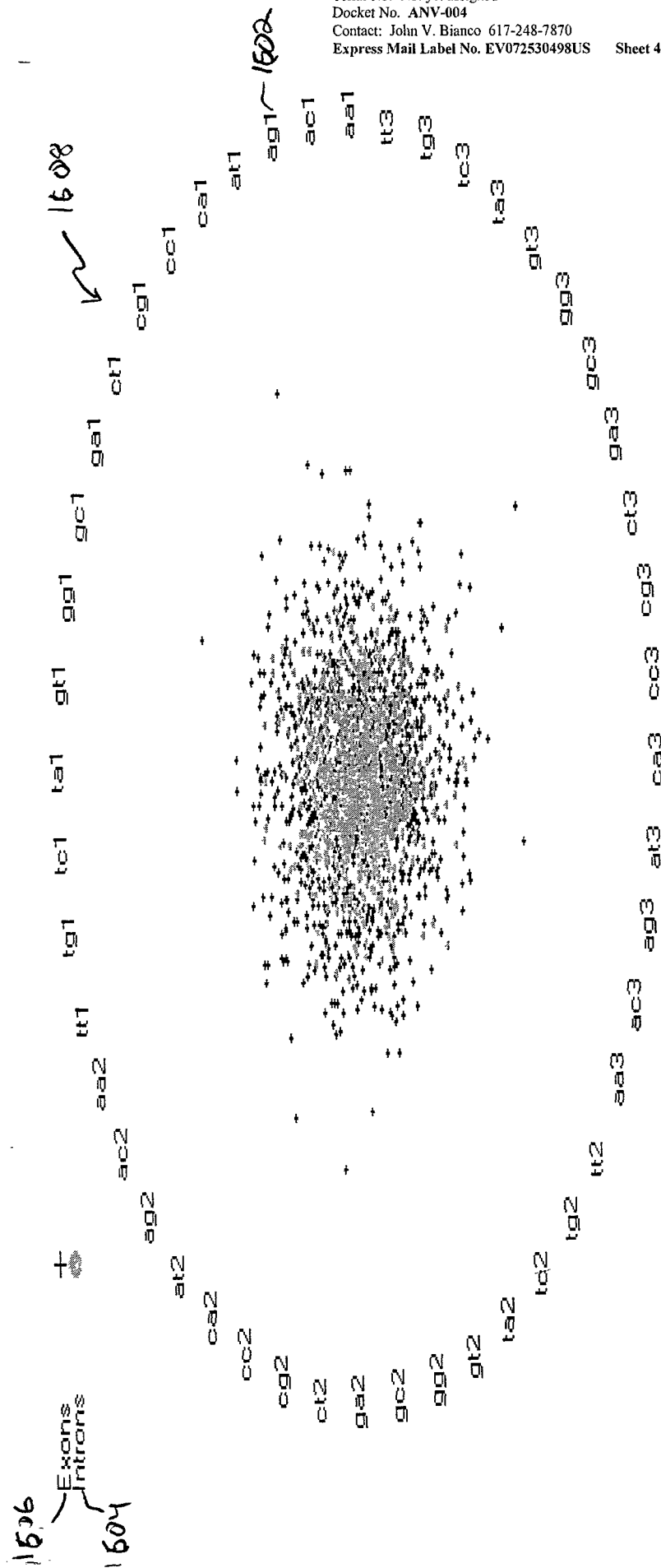


Figure 15B

2004022692200T

Shape Control - Arbitrary Spline

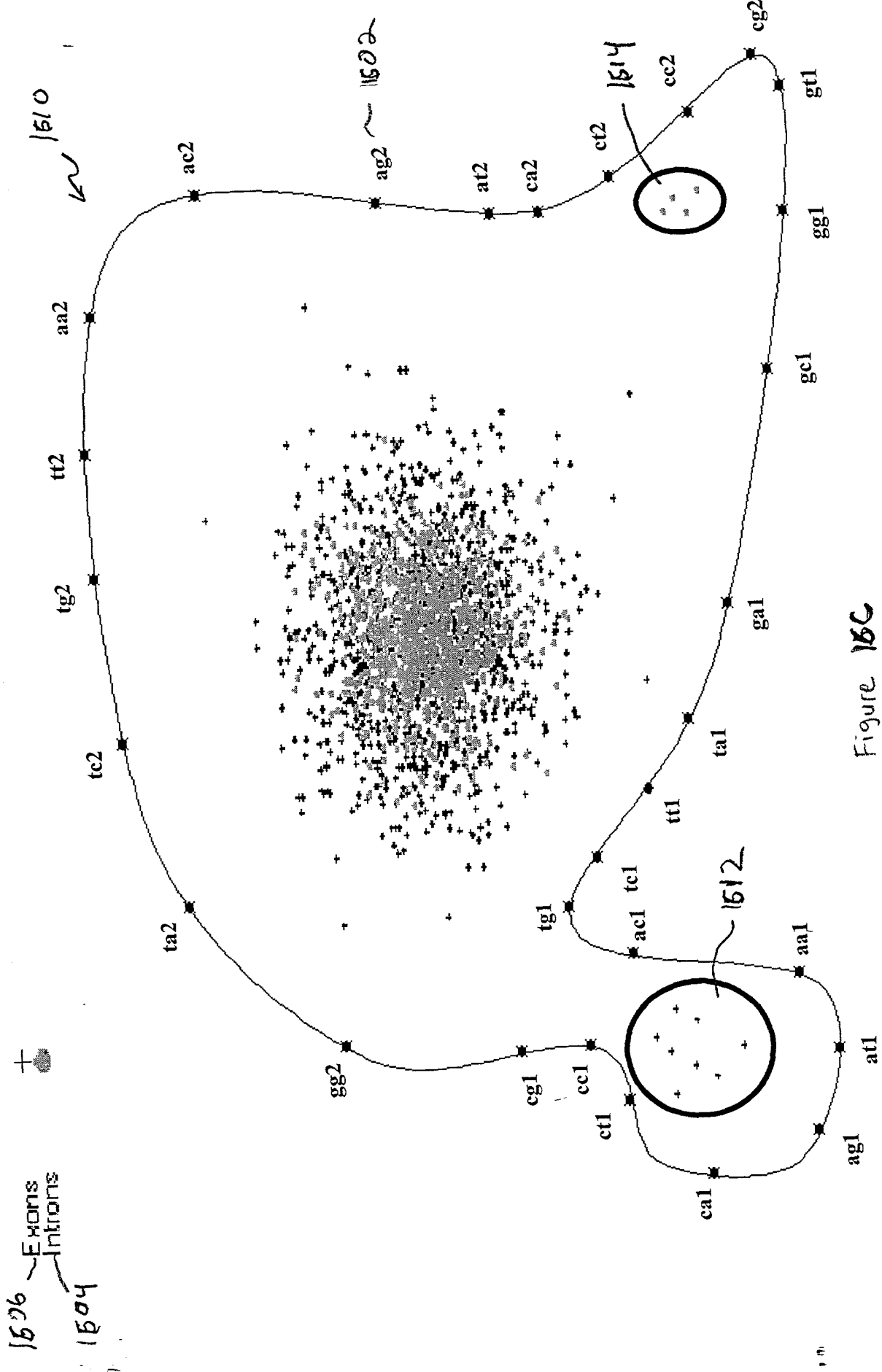


Figure 16C

62-1620

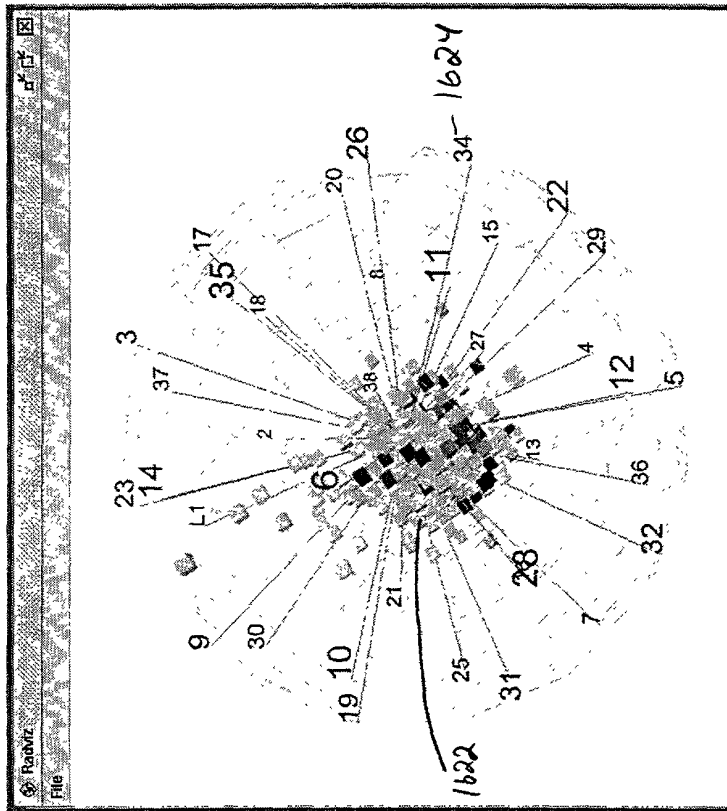
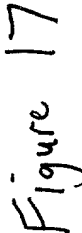
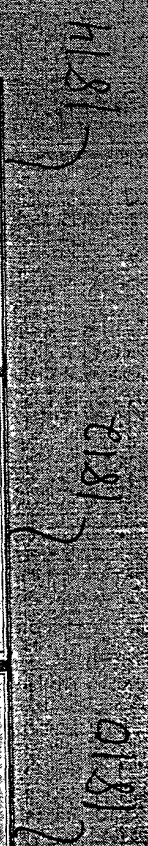


Fig. 16D





2218917



Figure 19



2008

2020

-1706

2006

2004

[illegible]

Figure 20

7-10-11

2007-09-26 09:22:00

1710a

1710g

2102

1708

1718

2106

2104

2102

1720

2110

2102

2174305

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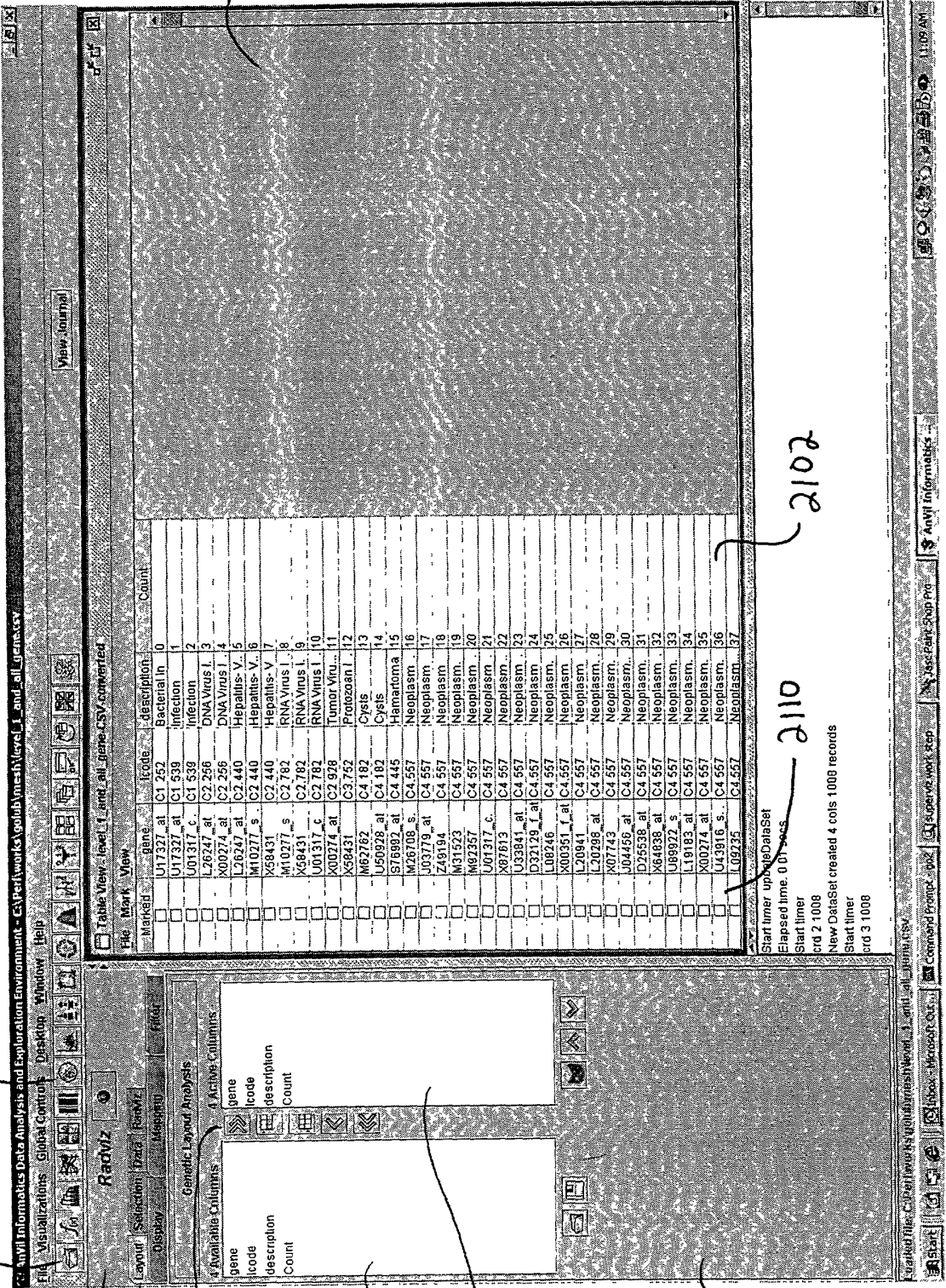


Figure 21

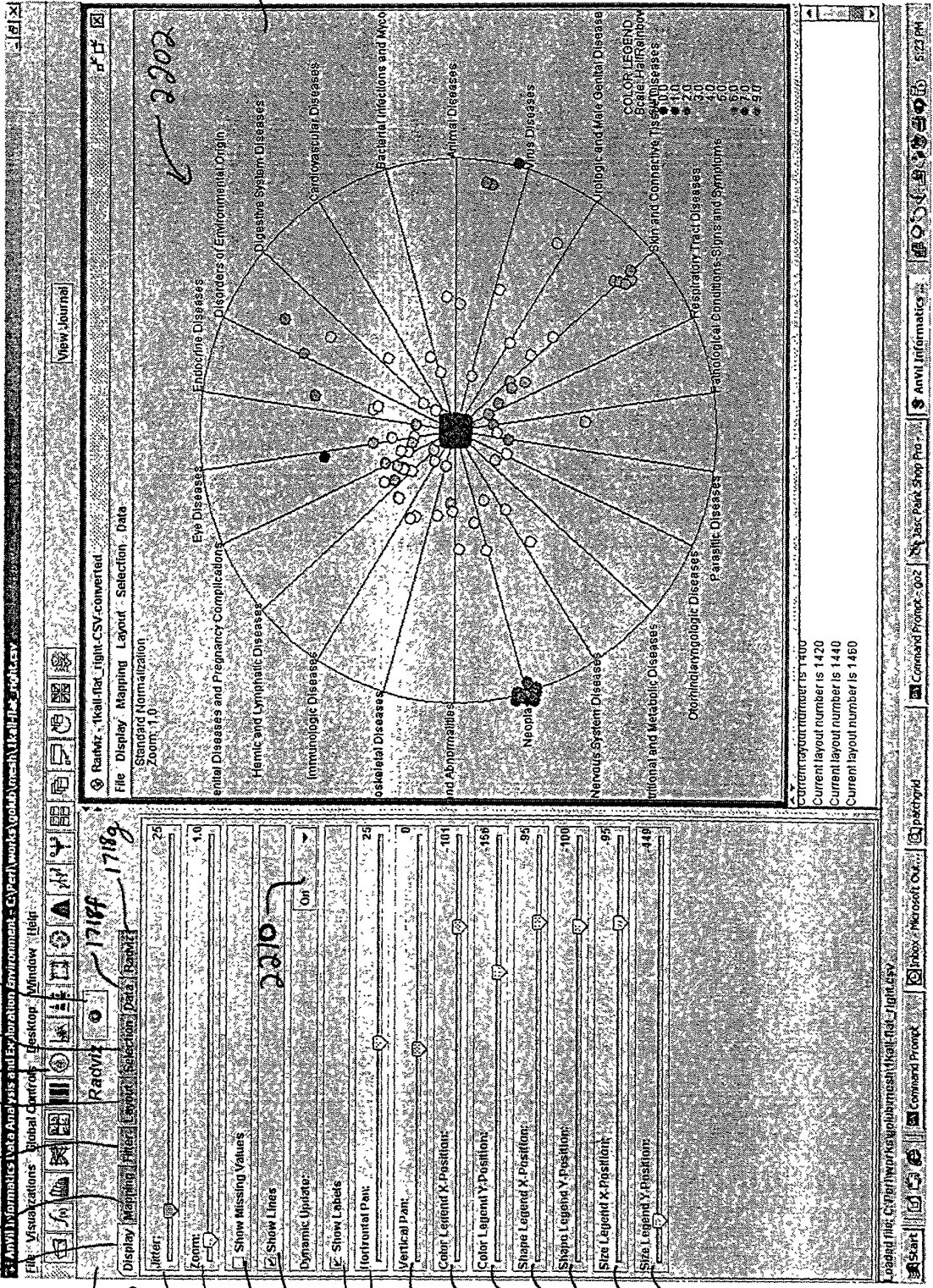


Figure 22

2218917

2218917

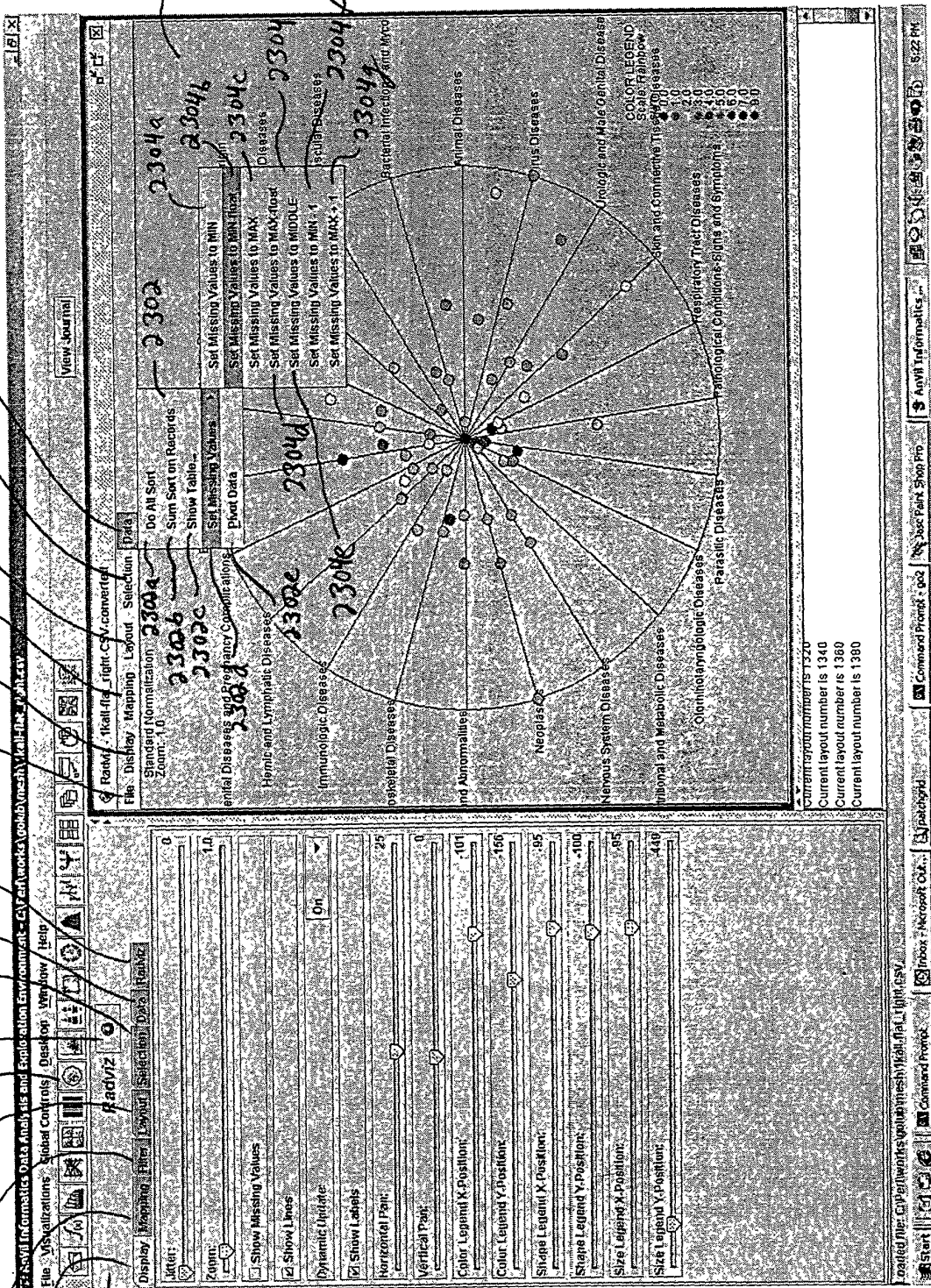


Figure 23

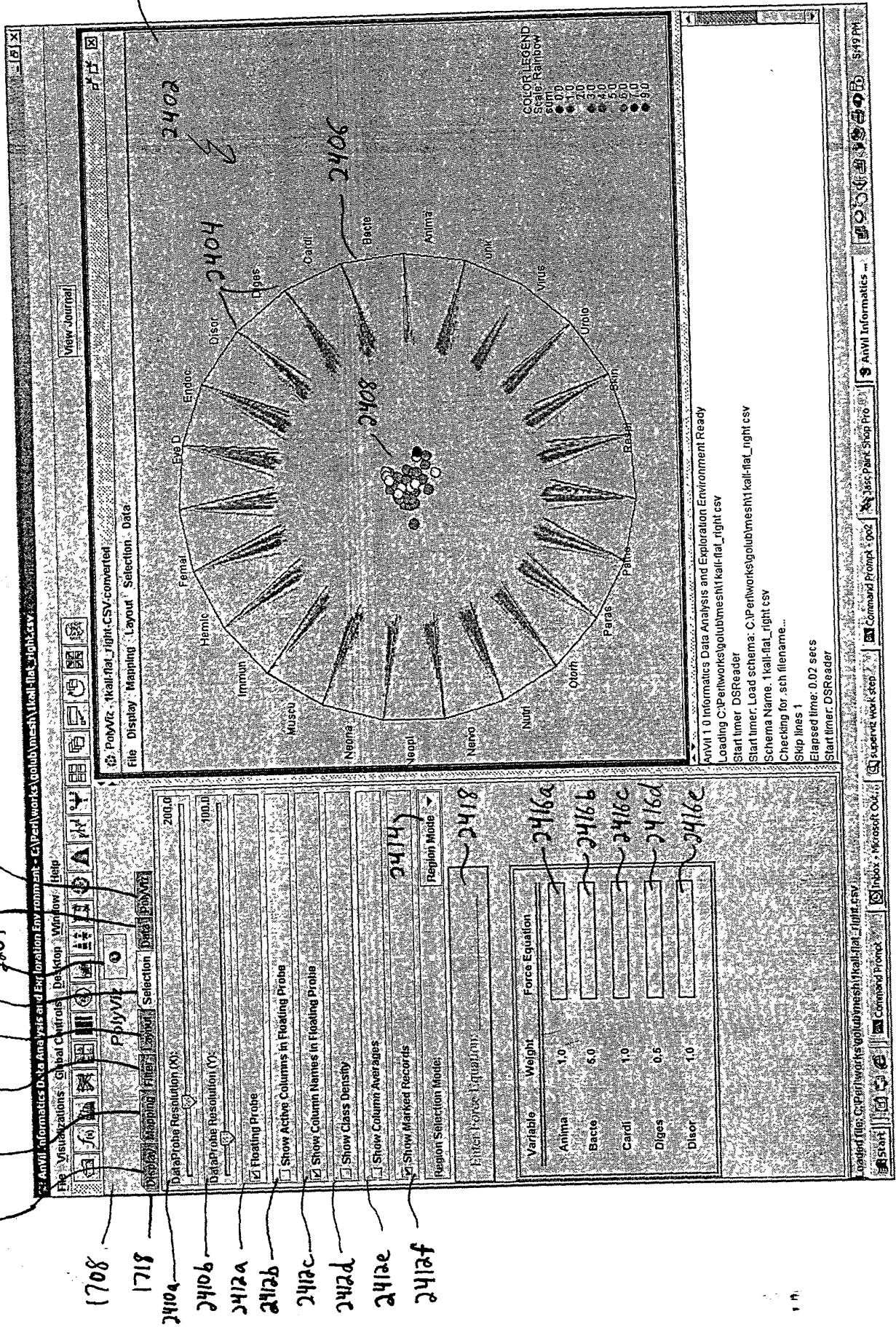


Figure 24

2218917

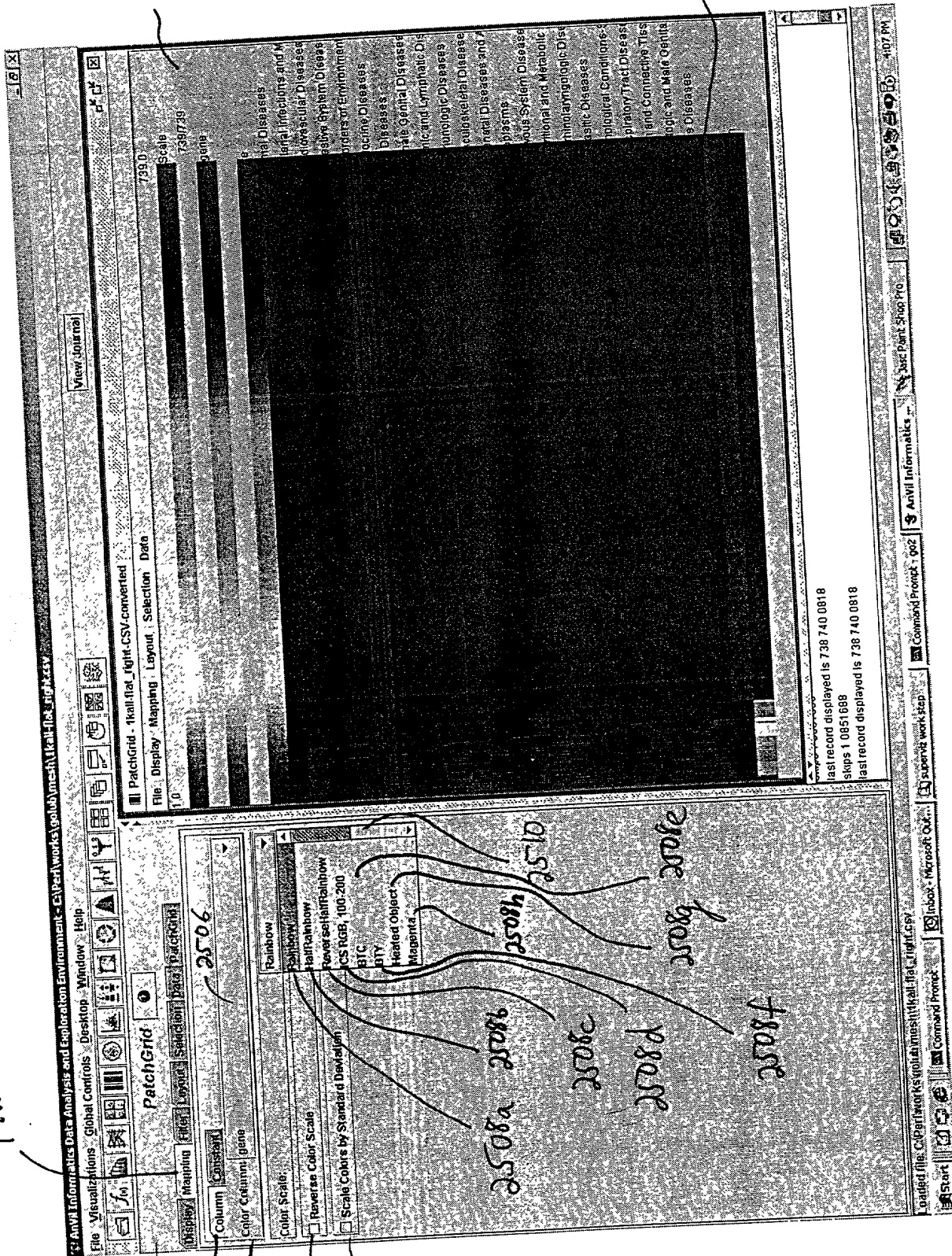


Figure 25

2218917

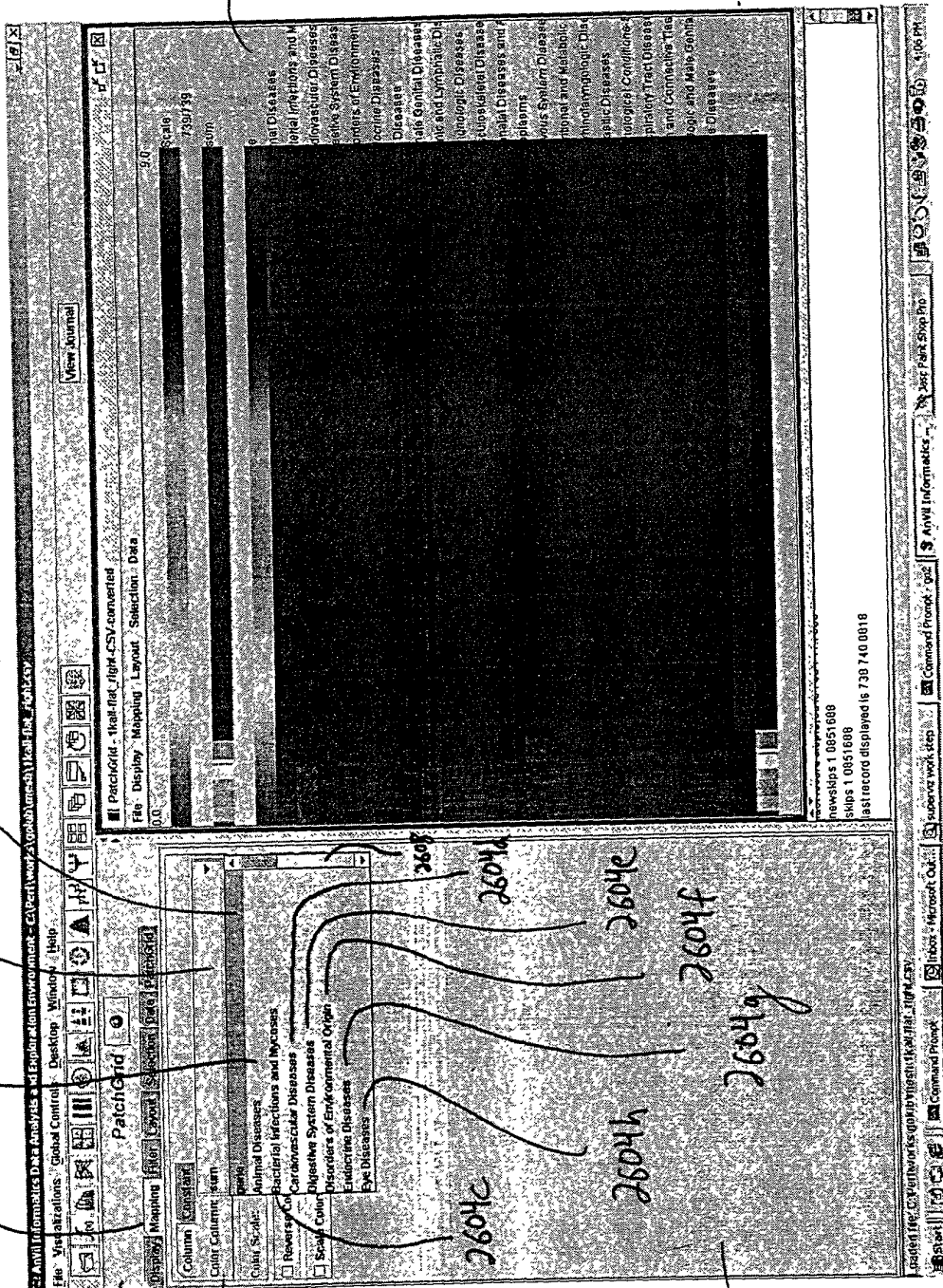
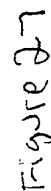


Figure 26

2018917



2702a

718c

Variable	Mean	SD	Min	Max	Skewness	Kurtosis	Normality
Age	38.5	12.5	25	65	0.1	3.2	0.95
Gender	1.2	0.4	1	2	0.2	3.5	0.98
Marital Status	1.5	0.5	1	2	0.1	3.3	0.96
Education	12.5	2.5	9	16	0.3	3.4	0.97
Income	1500	500	1000	2500	0.2	3.6	0.99
Occupation	1.8	0.6	1	3	0.1	3.4	0.97
Health Status	1.2	0.4	1	2	0.2	3.5	0.98
Stress Level	2.5	1.0	1	4	0.3	3.4	0.97
Life Satisfaction	3.5	1.5	1	5	0.2	3.6	0.99
Resilience	2.8	1.2	1	4	0.1	3.3	0.96
Optimism	3.2	1.4	1	5	0.2	3.5	0.98
Emotional Stability	2.5	1.0	1	4	0.3	3.4	0.97
Self-Esteem	3.0	1.2	1	4	0.1	3.3	0.96
Life Purpose	3.8	1.6	1	5	0.2	3.6	0.99
Gratitude	3.5	1.5	1	5	0.1	3.3	0.96
Forgiveness	3.2	1.4	1	5	0.2	3.5	0.98
Resilience	2.8	1.2	1	4	0.1	3.3	0.96
Optimism	3.2	1.4	1	5	0.2	3.5	0.98
Emotional Stability	2.5	1.0	1	4	0.3	3.4	0.97
Self-Esteem	3.0	1.2	1	4	0.1	3.3	0.96
Life Purpose	3.8	1.6	1	5	0.2	3.6	0.99
Gratitude	3.5	1.5	1	5	0.1	3.3	0.96
Forgiveness	3.2	1.4	1	5	0.2	3.5	0.98

2022

1706

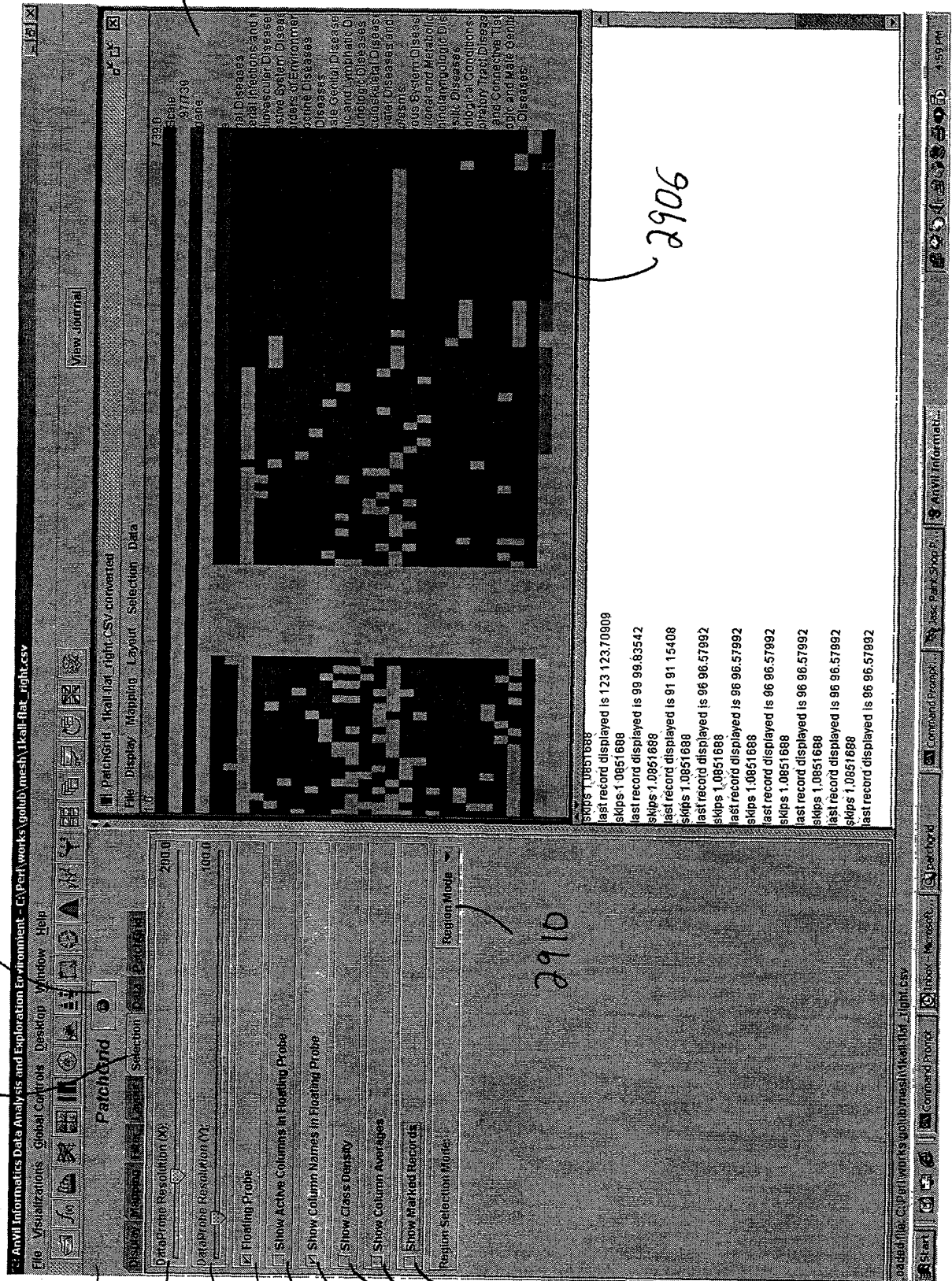
Sheet 57 of 79



2900

2204205120" 2204205120"

2904



1708

2900a

2900b

2900c

2900d

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2900g

2900h

2906

2910

Figure 29

217428

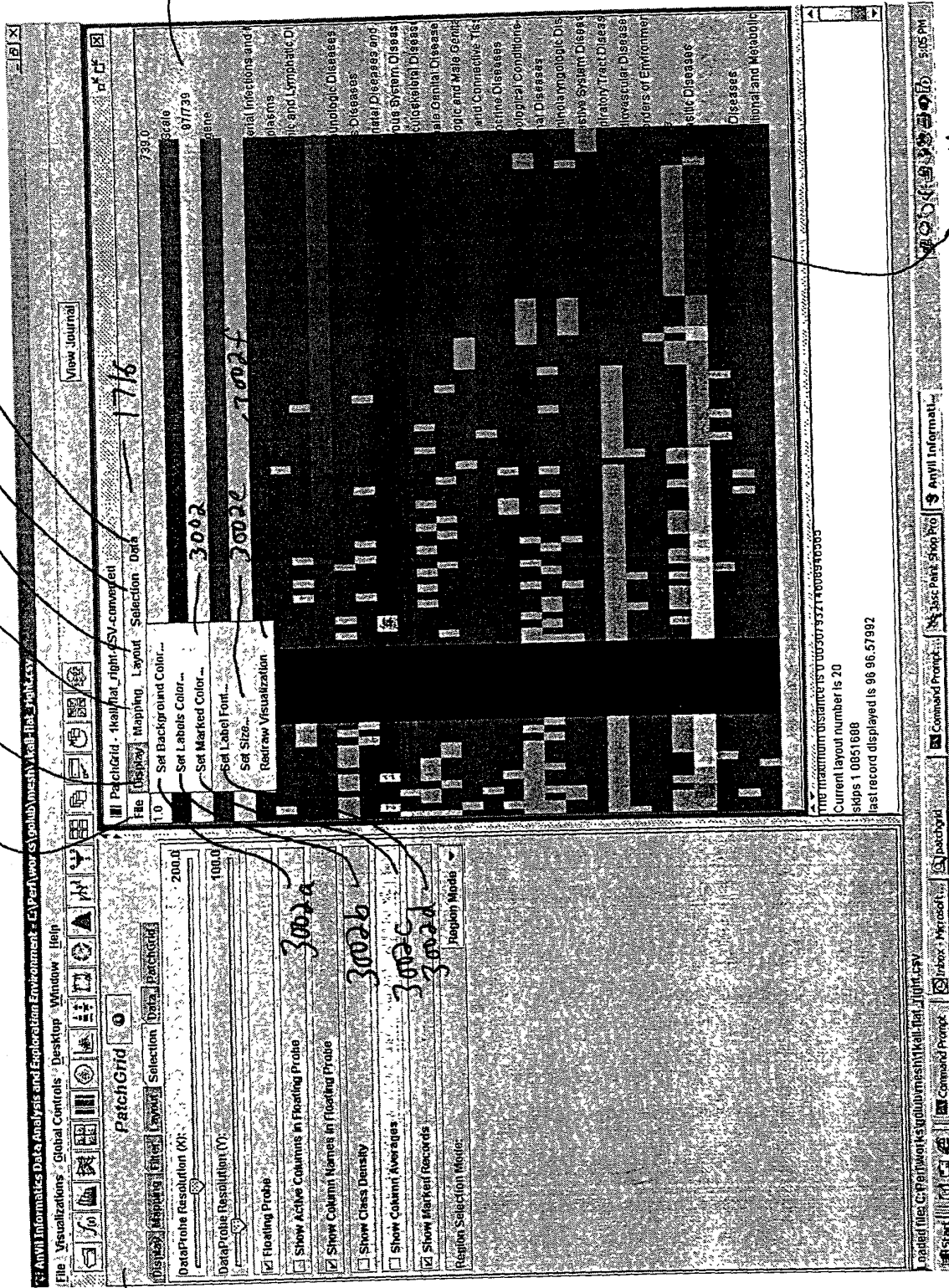


Figure 30

2218917

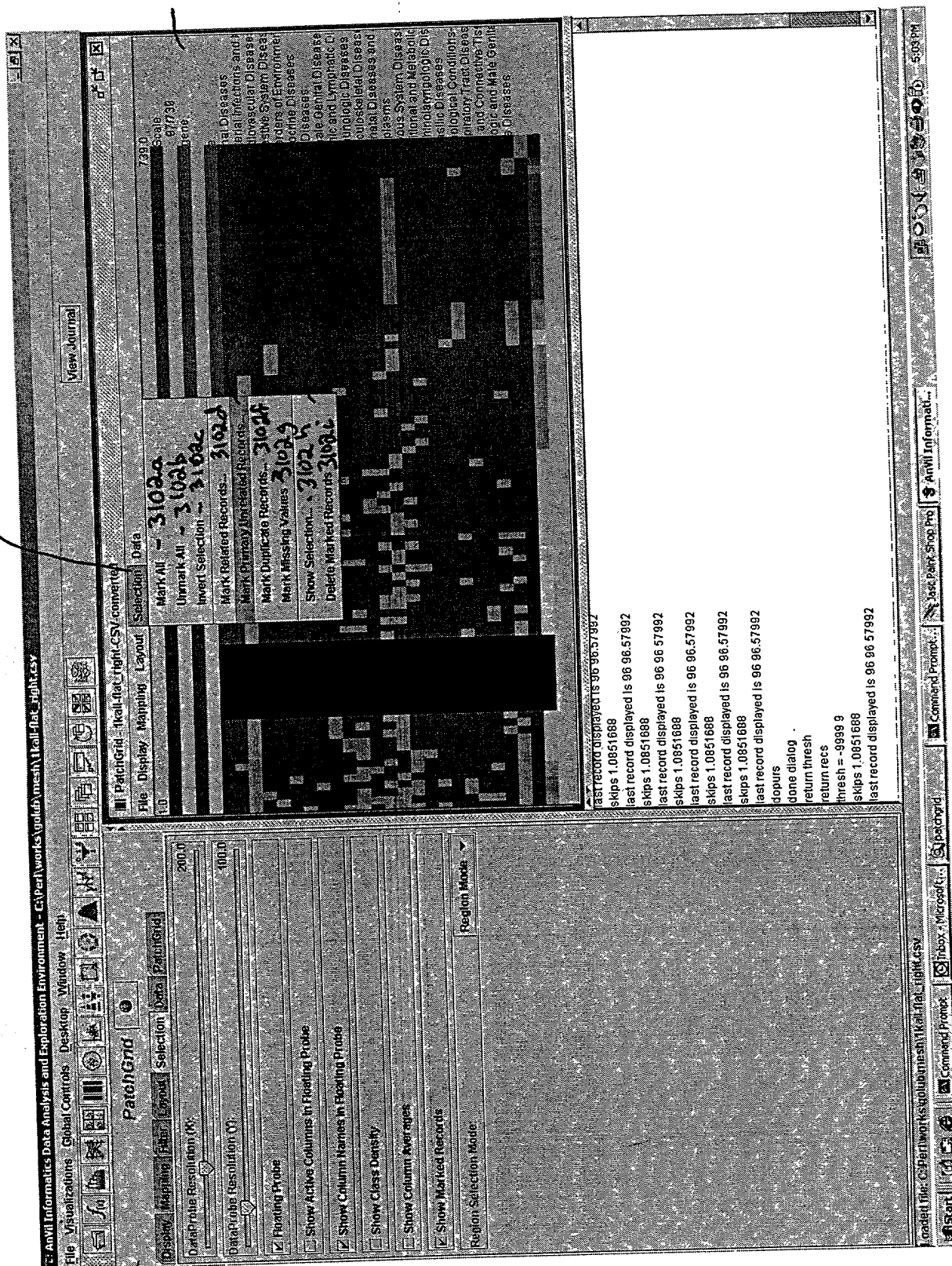


Figure 31

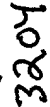


Figure 32

3300



Figure 33

Treatment Outcome Prediction

Chemotherapy

- 76 Gene Predictor Set
- Success
- Failure
- Boundary

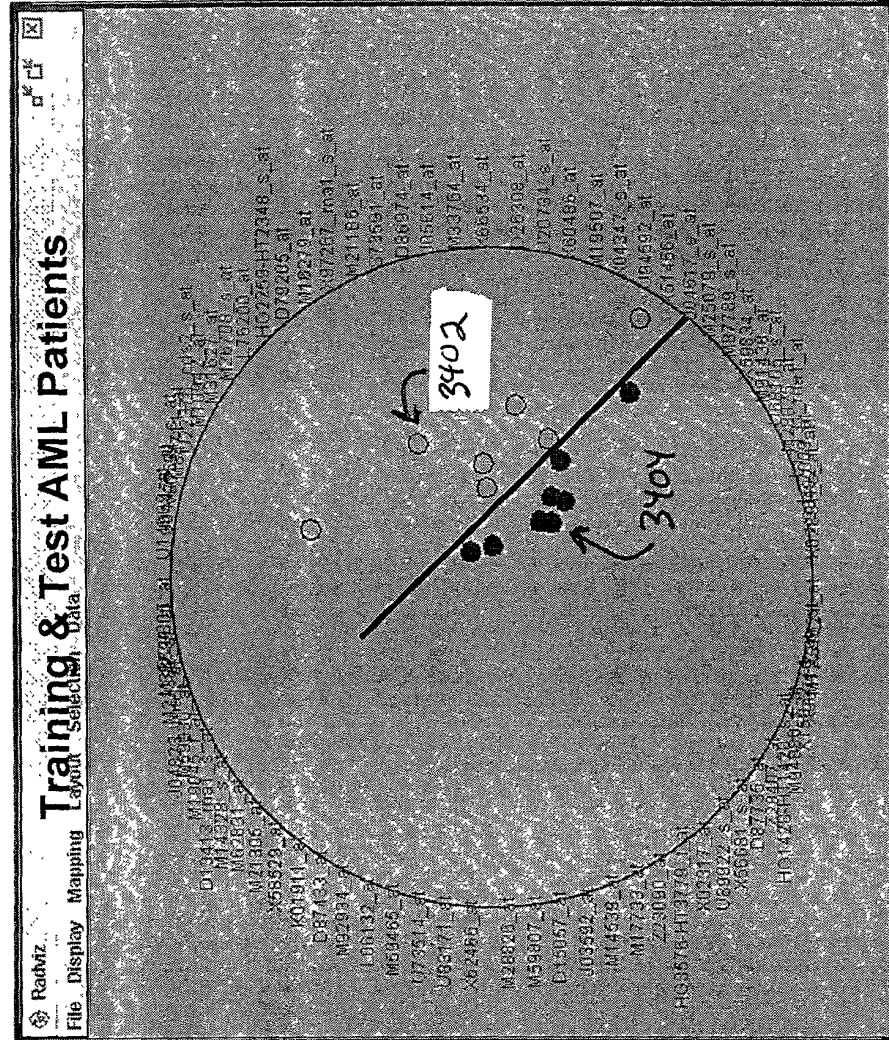


Figure 34

2259884

2009092200T

Reduced Genes

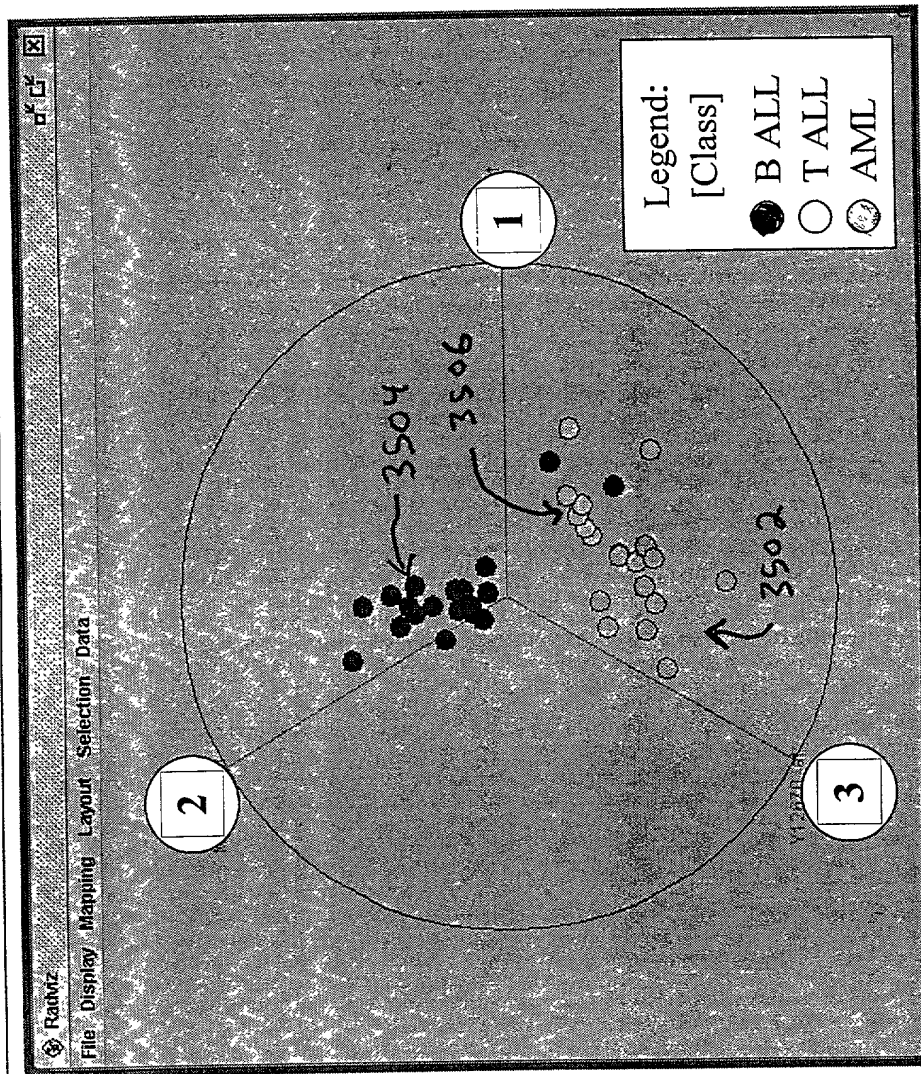


Figure 35

2259884

Chemical Structure

Benzodiazepines

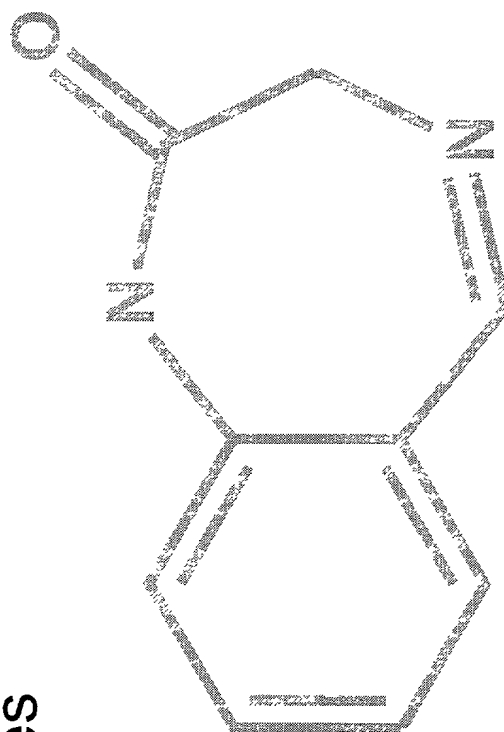


Figure 36

2273661

Radial Visualization Showing R₃ Attributes

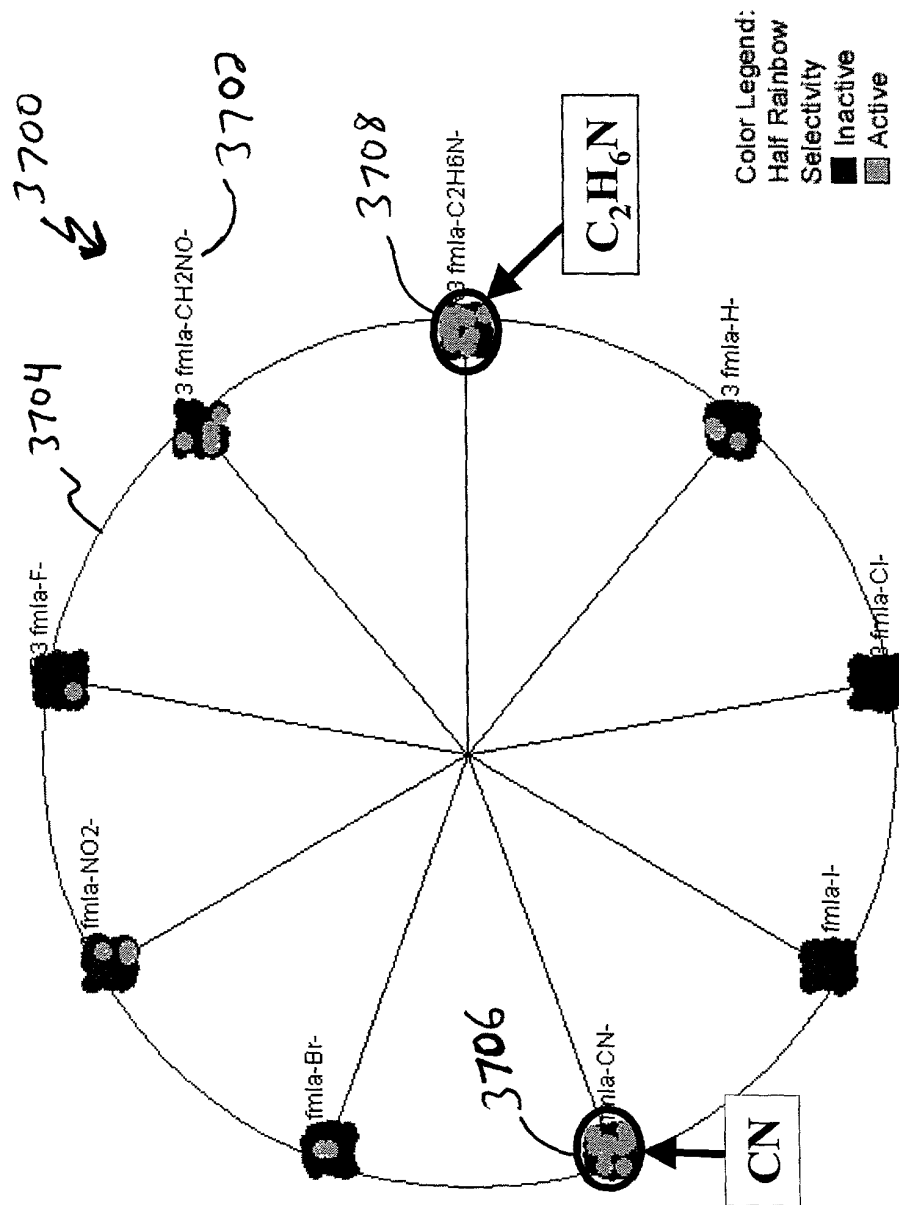


Figure 37

2273661

Radial Visualization Showing R_3 & R_4 Attributes

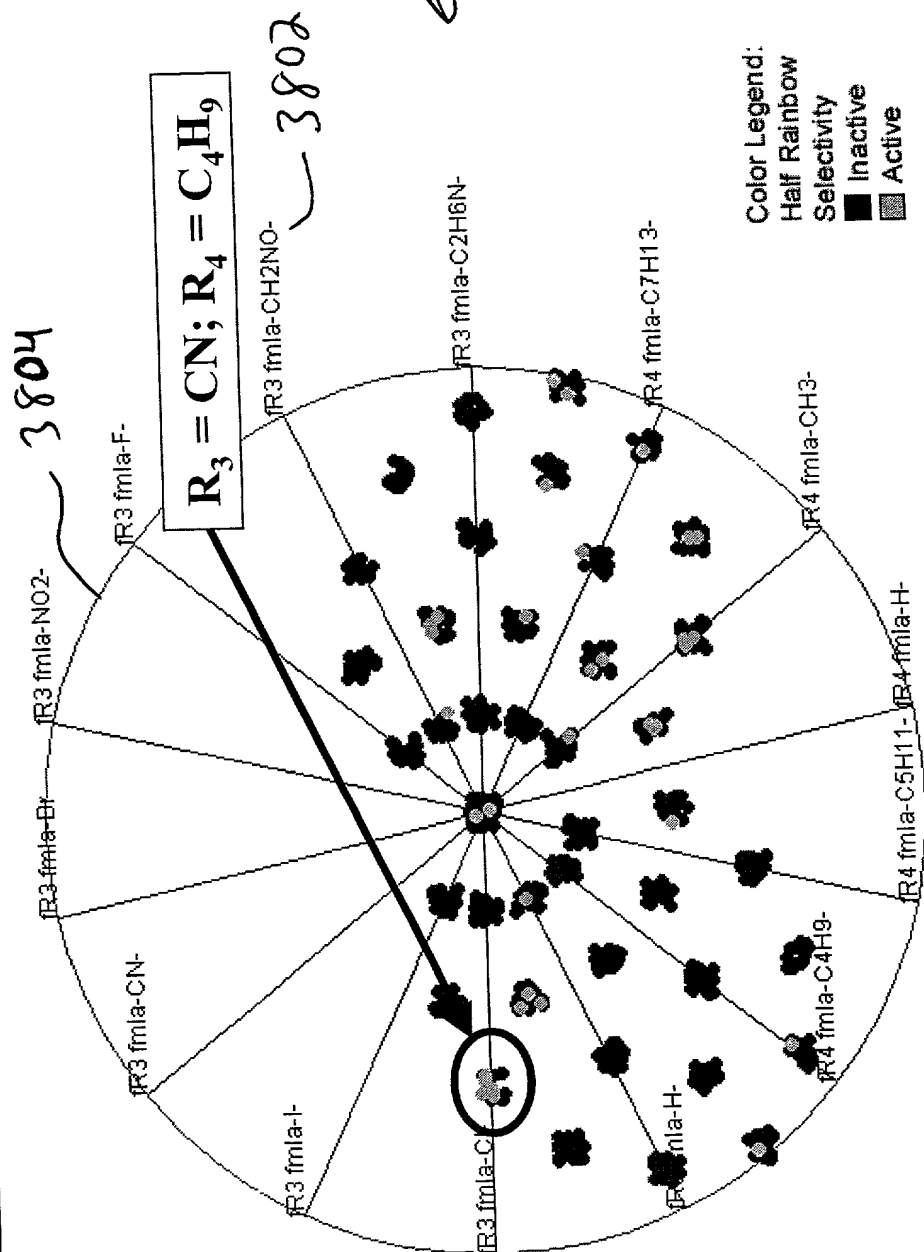


Figure 38

2273661

Radial Visualization Showing R₃ & R₄ Attributes

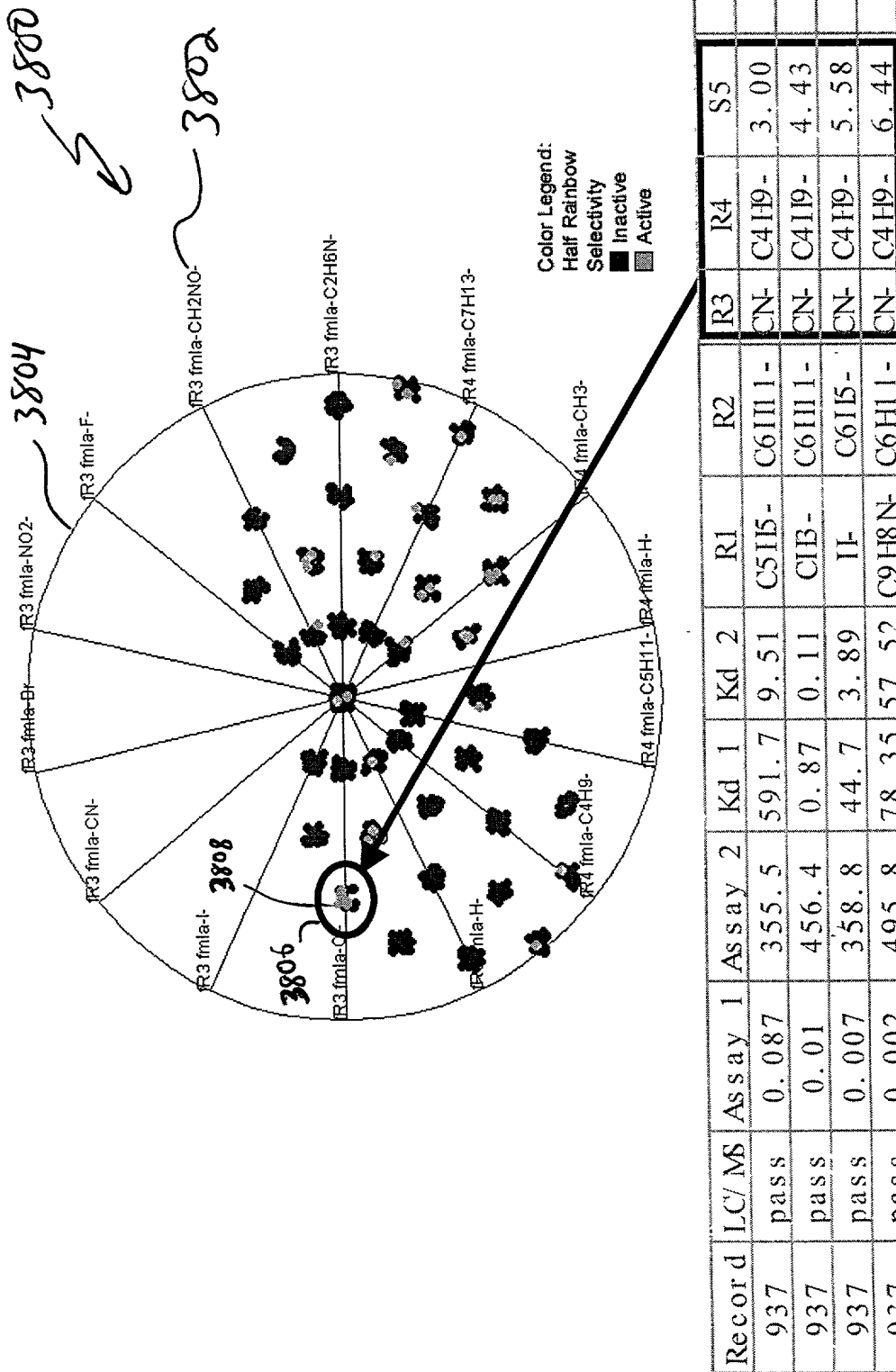


Figure 39

Radial Visualization Showing R_3 , R_4 & S_5 Attributes

Figure 40

2273661

20250720 20250720

Radial Visualization Showing R₃, R₄ & S₅ Attributes

Title: Method And System For Data Analysis
Inventor(s): Hoffman
Serial No. Not yet assigned
Docket No. ANV-004
Contact: John V Bianco 617-248-7870
Express Mail Label No. EV072530498US Sheet 71 of 79

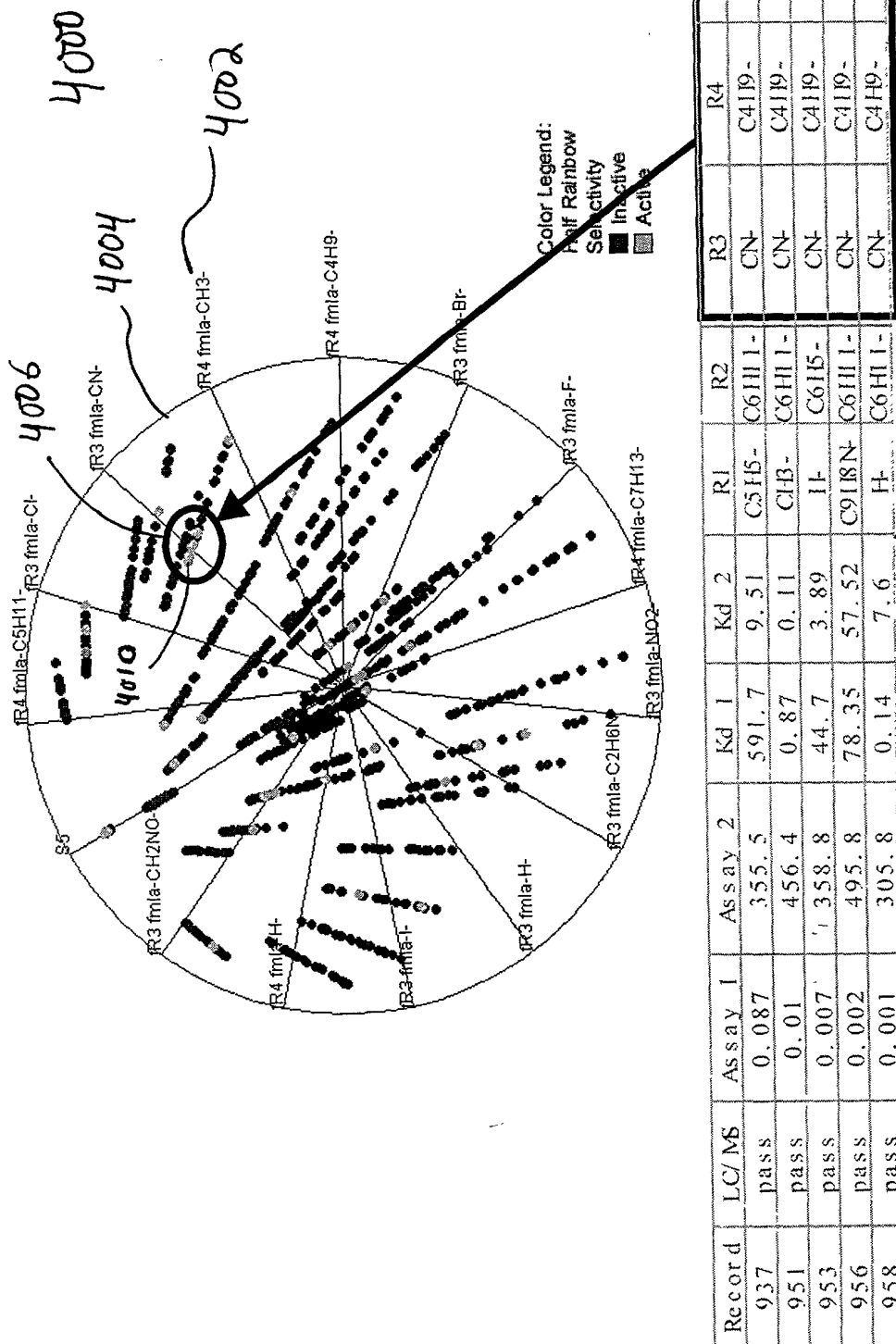


Figure 41

2273661

2007-06-20 14:22:00

Pearson Cross Correlations

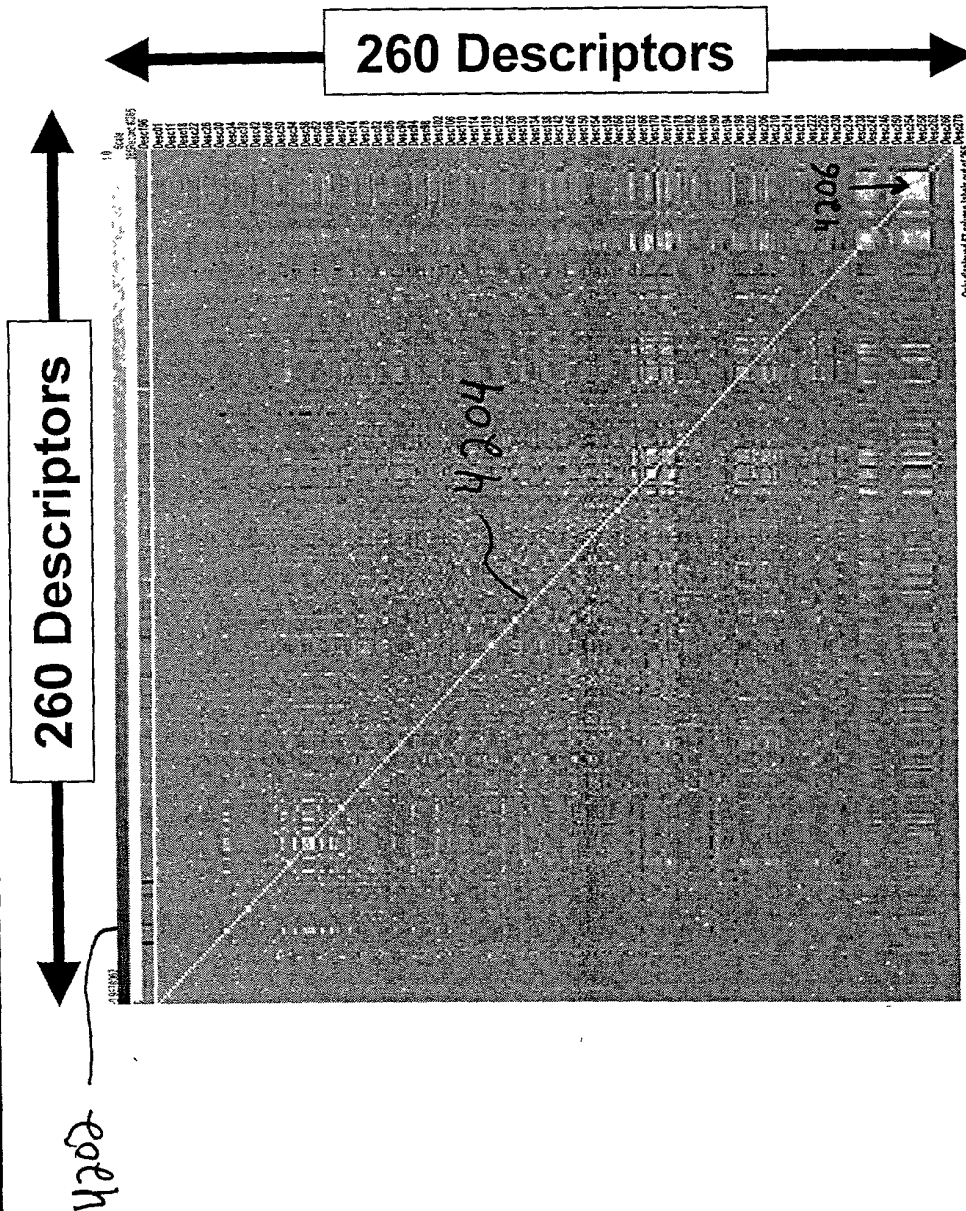


Figure 42

2273661

ISIS Keys

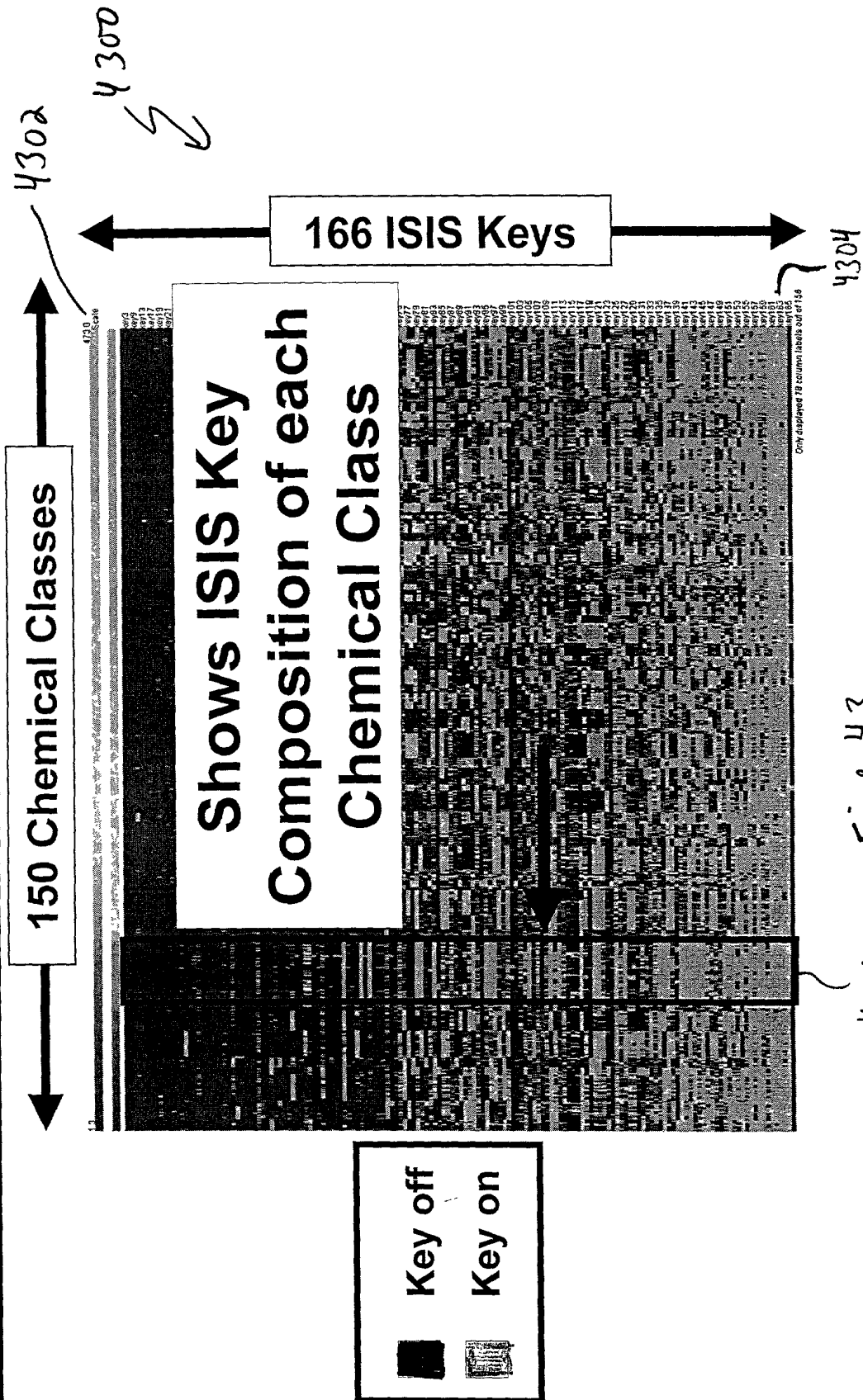


Figure 43

2273661

20251207 20942007

ISIS Keys

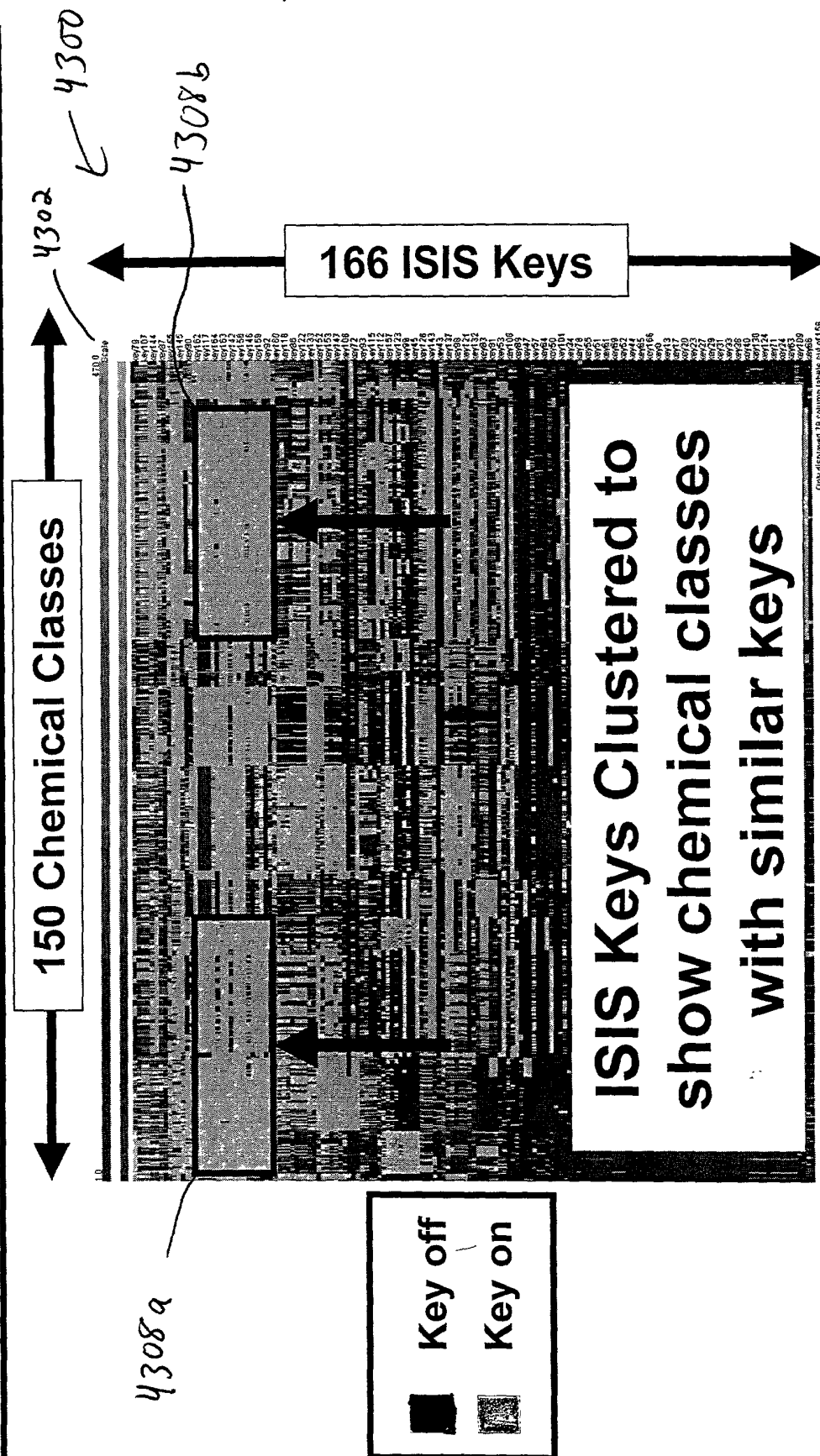


Figure 44

2273661

205420-26922001

Association Rules - Visually

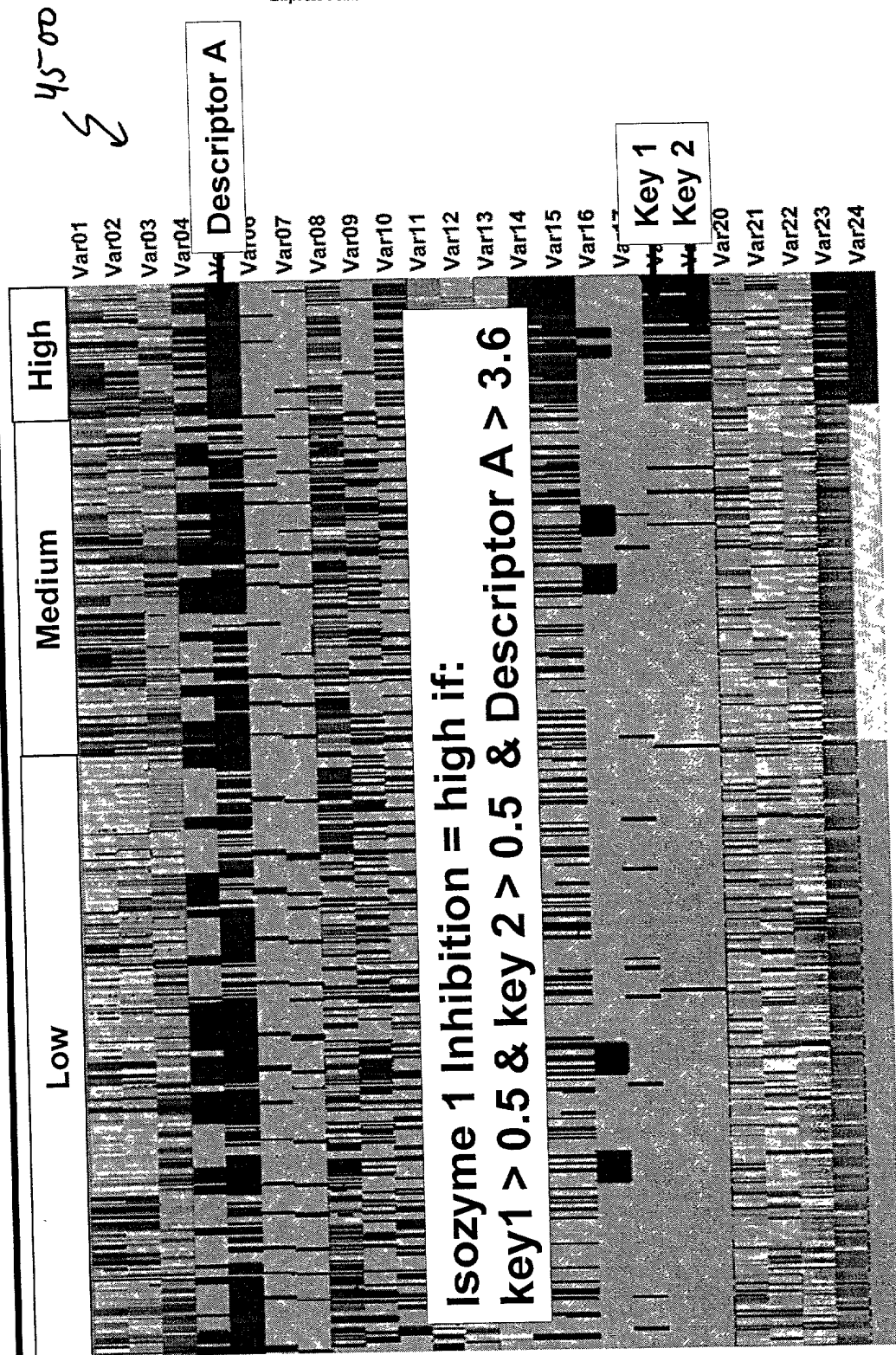


Figure 45

2273661

Exploratory Overview

4600

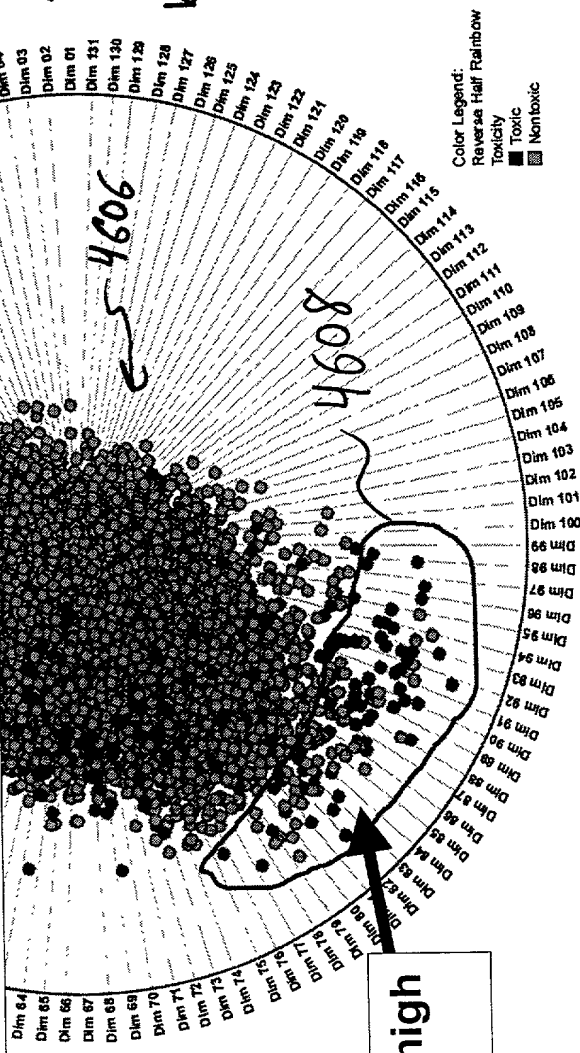
4602

4604

4606

4608

Isozyme 1
 Display using high-importance
 dimensions from association rules



Sub-select the high
 Activity region

Figure 46

Figure 47

After Genetic Algorithm

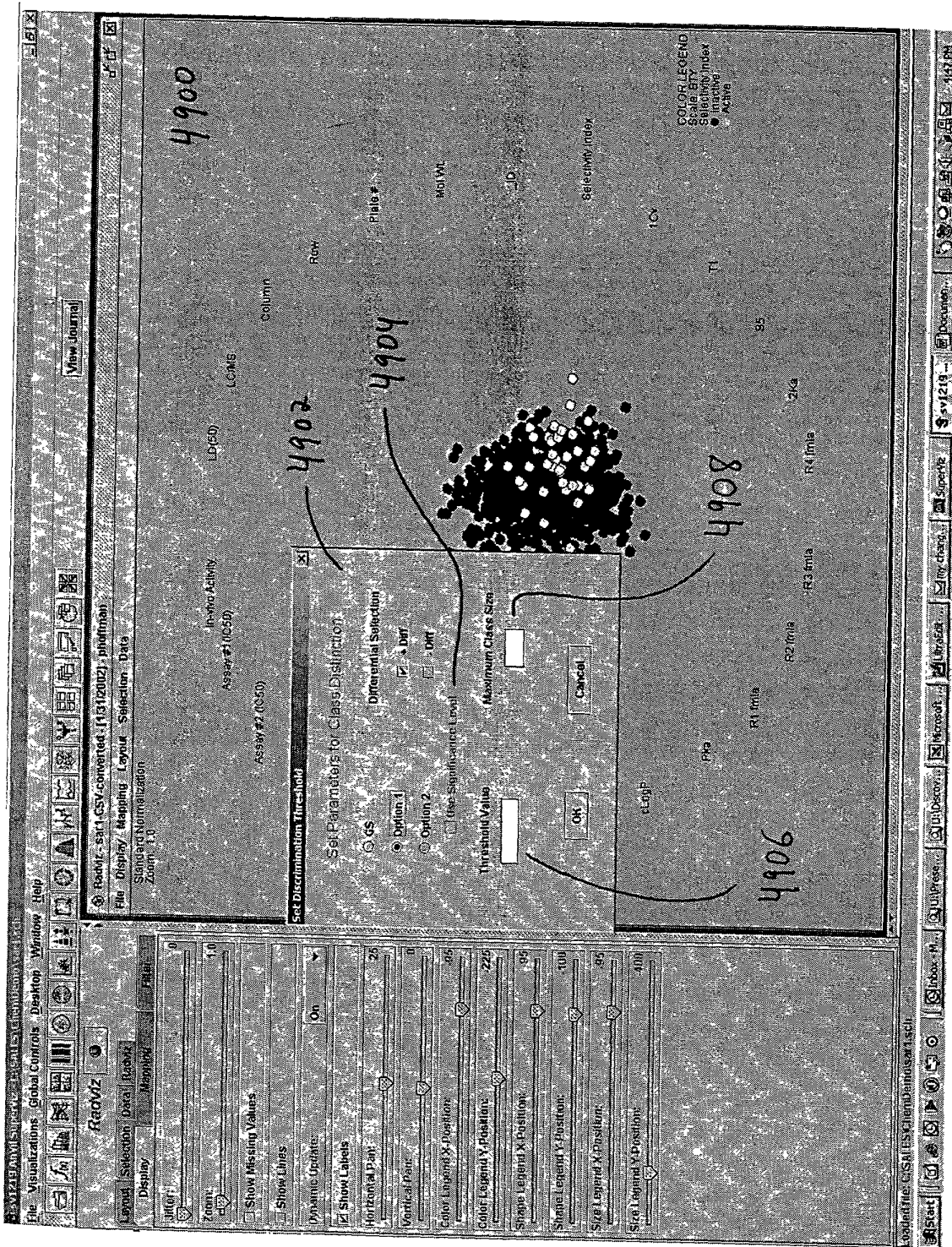


Figure 49